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Managing Travel in Connecticut: 100 Years of Progress



Connecticut Department of Transportation
100 Year History

July 1995



Managing Travel in Connecticut: 100 Years of Progress



Connecticut Department of Transportation 100 Year History

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The entrance to the Merritt Parkway at the Connecticut-New York state line, as it looked in 1940.

PREFACE

What originated 100 years ago as a three-member commission with an initial budget of \$75,000 has developed into a department with some 4,000 employees and an annual combined operating/capital projects budget of nearly \$1 billion. In 1895, the \$75,000 was distributed to towns on a matching basis to fund the construction of roads that met state standards. Now, a century later, the Connecticut Department of Transportation (the Department) continues to administer a town aid program for local highway and bridge improvements. While providing assistance to local communities for roadway improvements was the principal function carried out by the first three Highway Commissioners (and later the Highway Department), the current Commissioner, J. William Burns, is responsible for a multitude of transportation programs and projects involving not only highways, but also rail service, bus systems, airports, ferries, State Pier operations, highway safety, ridesharing and other mobility efforts.

This book has been written as an historical account of the Department's first 100 years and is to be distributed to libraries at the state's colleges and secondary schools, other state agencies, and, upon request, to Department employees. The book is part of a larger celebration that the Department has planned to commemorate the transition and growth of the Department over the past century. A variety of commemorative events and activities have been scheduled, including a Department luncheon, an Open House at the Department's headquarters in Newington, various exhibits presented by groups within the Department, a commemorative quilt, a cookbook, a commemorative calendar, a video, and a "fun run" for Department employees. The people on the committees that made these many events possible are recognized at the end of this book.

CONNECTICUT DEPARTMENT OF TRANSPORTATION

MISSION AND GOALS

MISSION STATEMENT:

It is the Mission of the Connecticut Department of Transportation to provide a safe, efficient, and cost-effective transportation system that meets the mobility needs of its users.

GOALS:

- to strive to identify, analyze, and continually improve the way we do our work so that we may deliver better products and services, and improve our work environment.
- To operate the Department with maximum efficiency, so as to create additional resources for investment in the transportation infrastructure.
- To maintain the transportation system to ensure continued high levels of safety and mobility.
- To maximize the utilization and efficient operation of existing transportation assets.
- To focus our human and financial resources on priorities established through an ongoing, analytical planning process that continually asks the question, "What should the DOT do next to fulfill the Mission?"
- To invest in projects that ensure safety, maintain the existing transportation infrastructure, increase the productivity of the transportation system, promote economic development, and provide necessary capacity enhancements.
- To utilize all available federal and state funds.
- To seek to protect and enhance the natural environment as we develop transportation improvements.
- To engage stakeholders in a consultative process from the earliest stages of project development.

DEDICATION



Office of the
Commissioner

July 1995

My Fellow Employees:

The one hundredth anniversary of any organization is a most significant milestone. It denotes that the contributions made by that organization are relevant to the problems of today and that those who provide the services have recognized change and have changed with the times.

Look back on our history and you will find one constant theme. We have been asked to provide the backbone of Connecticut's economic development infrastructure, starting with the charge in 1895 to the Connecticut Highway Department to "get us out of the mud" so that the State's goods and crops could get from farm and factory to market.

Today, you are asked to perform tasks not even dreamed of as wild possibilities by those who have preceded us. You are asked by the public to do a better job constantly, with the assurance that the resources entrusted to us are well spent.

By any measure, you are meeting these challenges. The Connecticut Department of Transportation is a prototype of a truly multimodal transportation provider. We have taken innovative steps to assure the preservation and enhancement of all modes of transportation in our State. You can see this every day. When you see the resurgence of our rail systems, when you see a world class airport at Bradley, when you look at our highway operations center, you see our dedicated staff providing not only for today's needs, but truly planning for tomorrow's.

As we complete our first century of service, I believe it is only fitting that this volume be dedicated to all of the past and present employees of the Connecticut Department of Transportation and its predecessor agencies. You truly represent all that is good in public service, and I know that all of the citizens of our State would join with me in saying to all of you "Well Done."

J. William Burns
J. William Burns
Commissioner

COMMISSIONERS



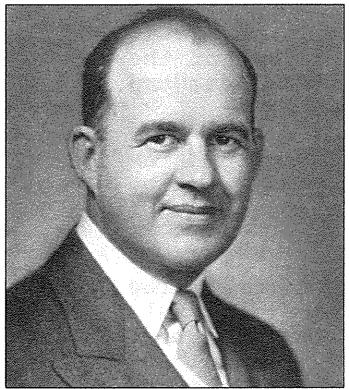
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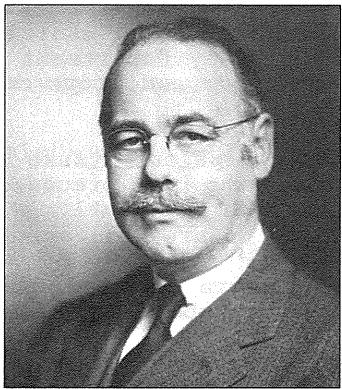
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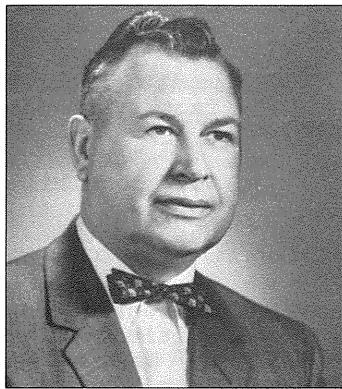
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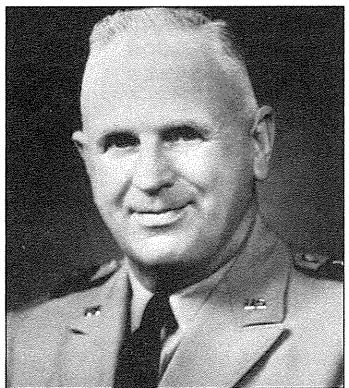
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G. Albert Hill
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Newman E. Argraves
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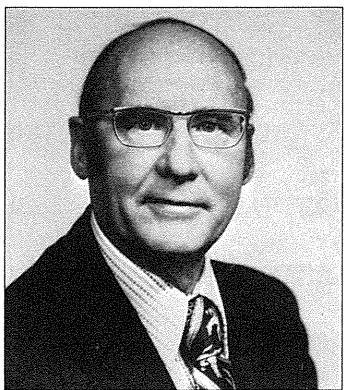
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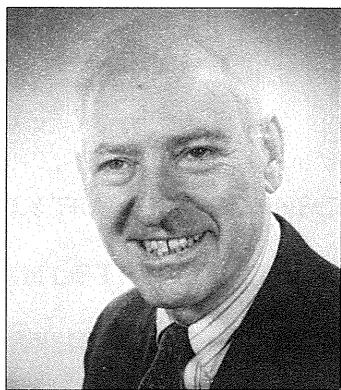
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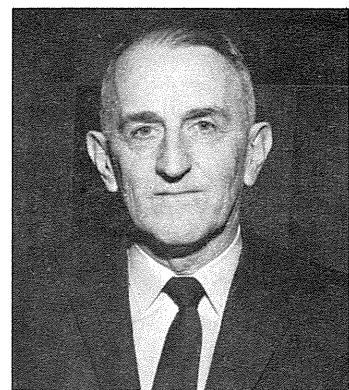
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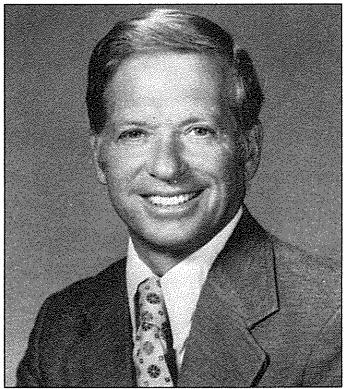
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Samuel Kanell
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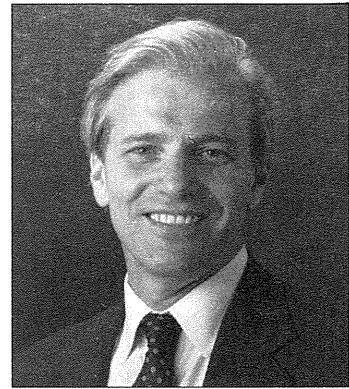
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Arthur B. Powers
January 1979-October 1981



J. William Burns
October 1981-February 1991
and
January 1995-Present



Emil H. Frankel
February 1991-January 1995



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CHAPTER I

EARLY TRAVEL IN CONNECTICUT

BEFORE 1895

COLONIAL ROADS

The first road in Connecticut, if it could be called that, was the Connecticut Path. This trail was already marked by 1633, when an English settler by the name of John Oldham traveled upon it to investigate the Connecticut River Indians' invitation to colonize the area, as English settlers had done in Massachusetts Bay. By 1635, the "New Way" into Connecticut was well marked by John Cable and John Woodstock, agents acting for William Pynchon, who had formed the plantation at what is now Roxbury, Massachusetts, and who had an interest in colonizing new lands and opening fur-trading routes. This "New Way" or Connecticut Bay Path, later known as the upper Boston Post Road, was settled so quickly that by 1638 the General Court, the Colony's legislative body, ordered that roads between Hartford and Windsor be laid out, and in 1640, that roads between the early towns be maintained. Soon thereafter, the construction, care and maintenance of highways was formally placed on the towns by the General Court, primarily to ensure the care of the route between the Connecticut Colony in Windsor and the Massachusetts Bay Colony in Cambridge, Massachusetts. This route was used by Connecticut Colony founder Reverend Thomas Hooker and his assistant Samuel Stone in 1636.

In 1643, the Court ordered each Municipality to appoint two officials, known as surveyors, who were given the power to *"call out every Teeme and person fitt for labour, in their course, one day every yeare, to mend said highwayes wherein they are to have a spetiall to those Common wayes which are betwixt Towne and Towne."* This compulsory labor statute was enlarged in the 1650 Code of Laws, which authorized financial penalties on those

men who failed to meet their annual road work obligation of two days work a year: *"if any refuse or neglect to attend the service in any manner aforesaid He shall forfeit for every dayes neglect of a mans worke two shillings sixpence, and of a Teame, sixe shillings . . ."* This act formalized a custom that dated at least from medieval England. It would continue to remain in effect until the nineteenth century, providing the main source of workers for road and bridge construction.

Bridges were also under the jurisdiction of the General Court. In 1651, the Court resolved that a bridge should be built over the Connecticut River at Hartford (although such a bridge was not to be built until 1810). Throughout the seventeenth century, the Court ordered that bridges be built in a variety of locations.

* * *

In 1670, when laying out a highway along the Connecticut River, the Court set the first standard width for a major road, calling for the road to be *"six rod wide"* (about 99 feet). This road formed a portion of the first post road, known as the Upper Post Route, the first of three declared as such when the Colonial post was established in 1671. These roads were meant to connect the newly conquered colony of New York, formerly New Amsterdam, with the Massachusetts Colony. The Lower Post Road ran along the Connecticut shoreline to Rhode Island, where it turned inland to Kingston, Rhode Island, and connected to Boston through Providence. The Middle Post Road connected Hartford and Boston via Coventry and Pomfret, Connecticut, and Mendon and Roxbury, Massachusetts. The Upper Post Road ran north from Hartford to Springfield, Massachusetts, and then east to Boston.

Despite appearances on paper, these post roads were in some places barely passable paths. They were rock-strewn, boggy, and craggy . . . a fright to travel over. In good weather, a person on foot might travel 10 to 15 miles, maybe 18 to 20 miles on horseback. In 1679, the Court, in an effort to improve communication between settlements, ordered that the existing roads between plantations, as the towns were then called, be taken over and designated the King's Highway, but maintenance still remained the responsibility of the citizens of the towns through which they passed. Their poor quality was further attested by the General Court's order that the roads be cleared of brush until they were at least one rod (about 16 feet) wide.

In the 1680s and 1690s, the Court ordered the laying out of the major roads between what were to become Connecticut's major cities. The Court also designated a committee method by which adjoining towns could agree on the location of connecting roads. Consequently, by the end of the seventeenth century, many miles of primitive road reached across Connecticut. The Colony's population was approaching 30,000 (the population in 1701) and road traffic had increased correspondingly. Travelers increasingly lost their way, so in 1698 the Court ordered that direction signs be placed at all road intersections or branchings.

* * *

The seemingly equitable method of compulsory labor for road building and maintenance continued through the eighteenth century, with a correspondingly equitable distribution of poor results. Roads were simply not maintained because few were willing to participate in the requirement of compulsory work, and the penalty for not working does not appear to have been well-enforced. There were not enough funds to build roads without compulsory labor, although attempts to raise funds for roadway maintenance were made. Even lotteries were tried - unsuccessfully. Roads in Connecticut generally remained little more than widened dirt tracks throughout most of the eighteenth century.



Road conditions such as this were common in Connecticut through the eighteenth century and into the nineteenth century.

Despite road conditions during that period, there was little apparent desire for dramatically improving existing roads or changing maintenance policies. Most of the trade in the sparsely settled colonies was local, and the proximity of most towns to sea and river travel minimized the need for an improved road system. Most residents were farmers who had neither the time nor the money to construct better roads nor to make adequate repairs on the ones in use. In a sense, because of the primitive nature of the local road system and the reliance on water for trade, the colonies were commercially closer to Europe than they were to each other. Communication, at least by land, between the colonies was very infrequent, as illustrated by the fact that in 1772 there was only one stage coach a fortnight (every two weeks) between Boston and New York.

Road building in early America was hardly scientific. There were no highway engineers, and power equipment was centuries away. Road construction consisted of teams of men and horses clearing away trees, brush, stumps and logs and then pushing the remaining earth roughly flat. Heavy equipment might have consisted of a plow or some form of crude horse-drawn scraper.

THE AMERICAN REVOLUTION AND THE TURNPIKE ERA

The American Revolution accelerated the demand for road and bridge building in the late eighteenth century. By the end of the war, however, many roads were impassable. Because Connecticut towns had contributed a great deal of money, material, and manpower to the war effort, they were unable to finance the repair of roads. And yet, improved roads were vital for the livelihood of the growing population of almost 200,000. After Connecticut attained statehood in 1788, the newly formed state lacked sufficient public capital to undertake a wholesale upgrading of the highway system. Subsequently, the Connecticut General Assembly granted franchises for the creation of private toll roads, a common practice in Great Britain. These roads were known as turnpikes because of the shape of the entrance gates on the roads.

There were two forms of turnpike franchises in Connecticut. The first was that in which an existing old road, badly in need of repairs and beyond the resources of the town, was presented to a turnpike corporation organized for the purpose of putting it back in good shape and maintaining it properly. The second was for the creation of an entirely new road, cutting across fields and forests to shorten travel distances. To create this turnpike, the General Assembly would first pass an act describing the route and laying out the proposed road. After declaring it a public road, the Assembly would then strip the road of its public character and a corporation would be authorized for the purpose of building the road and operating it as a turnpike. Under this method, the towns were required to purchase the land and to build any necessary bridges, while the corporation merely had to build and maintain the road itself. As a result, the majority of the financial burden was placed on the towns. Despite town protests, turnpikes continued to be formed in this manner through the turnpike era. This form of franchise was not eliminated until the mid-1850s.

* * *

The turnpike era in Connecticut began in 1792 with the formation of the turnpike linking New London and Norwich, which passed through land of the Mohegan tribe. This was not only the first turnpike in Connecticut, but also the first in all of New England and the second in the country. That same year, the Old Post Road in Greenwich was made a toll road, and turnpikes in Connecticut became a boom that lasted into the 1850s. Eventually, turnpikes accounted for approximately 1,400 miles of highway crisscrossing the state. A turnpike usually consisted of a flat stretch of earth about 16 feet wide. Crews of men and teams of animals would plow three-foot deep drainage ditches on both sides of the road and pile all the mud and rocks on the center of the road created. Most of these dirt cuts were not improved any further, and many were often impassable.

In the 1850s, an attempt at road improvement was made with the concept of the plank road. A plank road typically had a single track about eight feet wide, over which planks were laid crosswise and slightly inclined to allow the rainwater to drain. In 1851, the Danbury, Redding, Weston, and Westport Plank Road was chartered, but it apparently was not built due to competition from the Danbury and Norwalk railroad, already under construction by 1852. Several other plank roads were authorized, but only one, a short one between Waterbury and Cheshire, was ever built.

* * *

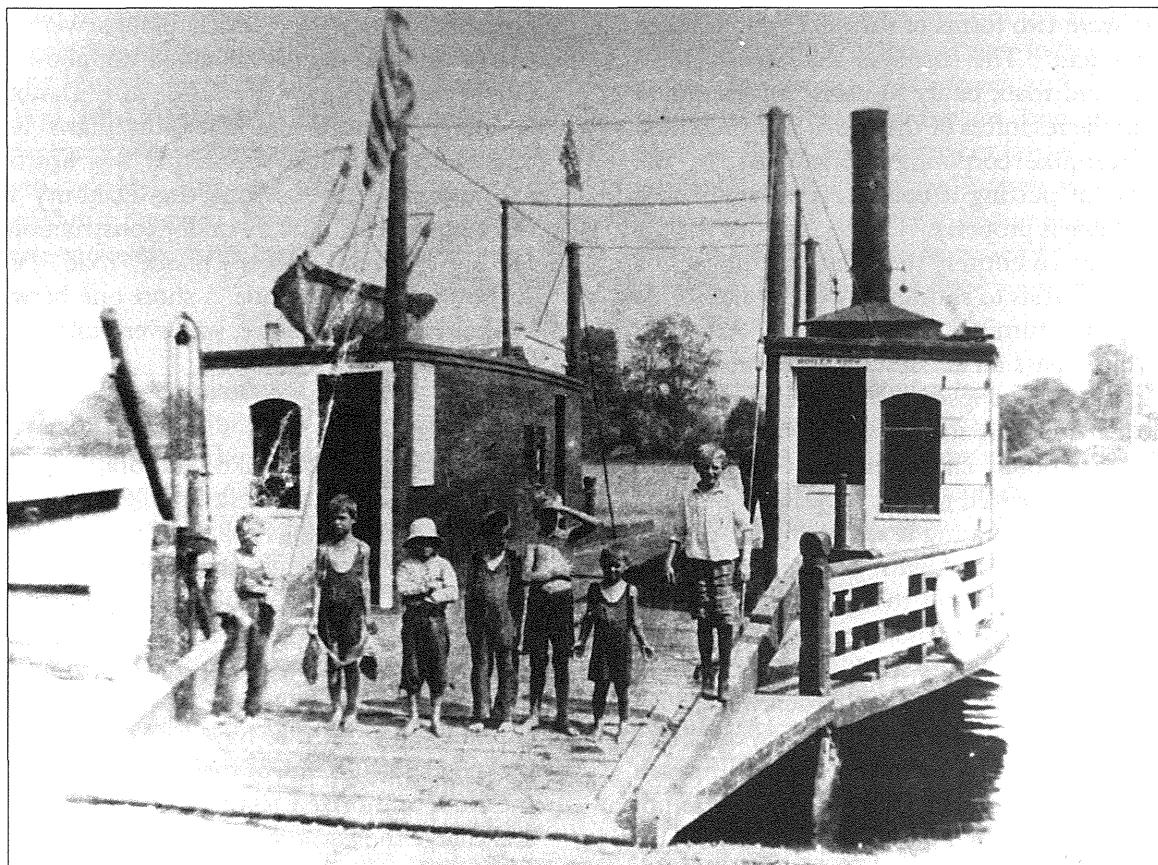
Most operating turnpike corporations were undercapitalized and were unable to maintain the roads with the tolls collected, particularly in the face of increasing competition from the railroads. In 1803, the state's first public service commission was formed to oversee the maintenance of turnpikes, but, without the needed funds for road maintenance, the commission seemed to have had little effect on the progressive decline of road quality. In 1844, the state authorized towns to repair turnpikes and charge the corporations for the expense. In 1854, the state permitted the turnpike corporations to give their roads back to the

towns through which they passed, and, at about the same time, provided for turnpike franchise forfeiture as the penalty for neglecting repairs. The turnpike era, despite the vast number of miles of road produced, was doomed to come to an end. With increasing competition from other forms of transportation, turnpikes eventually faded out of existence, with the roads gradually taken over by the towns.

CANALS, FERRIES AND RAILROADS

During the early years of the nineteenth century, Connecticut had a brief flirtation with canals. Water transportation had always been popular and favorable on the Connecticut River, for commerce as well as travel, and the river was still a very active waterway in these years. The Connecticut River was easily navigable as far

north as the rapids at Enfield, beyond which it was navigable for shallow draft boats from there to Vermont. Later, with the construction of locks and a short canal near Enfield (Windsor Locks) in 1824, boats of deeper draft could make the same journey. Yet, the inspiration of the success of the Erie Canal led some to invest in canal construction throughout the state. Five canals in addition to the Windsor Locks canal were chartered by the state. Only one of these others, the Farmington Canal, was built, connecting New Haven to Northampton, Massachusetts, via the Farmington River. Begun in 1822, the canal was not completed until 1835, and it was constantly plagued by poor water supply, damage to the canal banks, and lack of operating capital. By 1847, the canal was closed and railroad tracks were proposed to be laid in its towpath.



The Rocky Hill-Glastonbury Ferry was established in 1655 and is still operating today, making it the oldest continuously operating ferry in the United States. Above is a typical ferry in the era of steam power.

The first ferry to cross the Connecticut River was located at Windsor in 1641. Other ferries, providing the only way to cross the river, crossed at Saybrook-Old Lyme (1662-1911), Middletown-Portland (1726-1895), and two at Haddam-East Haddam, one operating as early as 1664.



In 1973, the Rocky Hill-Glastonbury Ferry was placed on the State Register of Historic Places as a historic landmark.

The Rocky Hill-Glastonbury ferry was established in 1655. Still in operation today across the Connecticut River, it is the oldest continuously operating ferry crossing in the United States. The Rocky Hill-Glastonbury ferry was once powered by a horse on a treadmill. The Chester-Hadlyme ferry, also still in service, has carried passengers since 1769.

The early ferries were canoes or rafts, propelled by paddles, long sticks, or pulled across by a rope. By the 1900s, they had graduated to flat-bottomed boats or scows propelled by a power boat fastened alongside. In 1915, the State Highway Department took responsibility for the ferries. Prior to that time, they were owned and operated by local companies which adhered to federal safety regulations and received state reimbursement for their deficits.

* * *

Railroads became dominant in Connecticut during the first half of the nineteenth century.

In 1837, just eight years after the first locomotive - the Stourbridge Lion - was brought to the United States from England, the first railroad line in Connecticut was completed, connecting Stonington with Providence, Rhode Island, with connecting steamboats to New York City. Industrial growth and railroad development fueled each other during this period. Suddenly, manufacturers whose plants were close to raw materials and sources of cheap water power had easy, all-weather access to major markets. Investors in railroad companies were primarily wealthy bankers and industrialists, such as New Haven's James Brewster and Joseph Sheffield, but many municipalities purchased stocks in these companies as well.

The New York & New Haven Railroad opened in 1848 linking Connecticut to New York by 1849. In the north-south direction, the most important line was the Hartford & New Haven line, which opened in 1839 between the state's alternating capitals. Five years later the line was extended north to Springfield, Massachusetts. Rails ran up the Housatonic River Valley by 1842. The Naugatuck Valley was connected to the sea at Bridgeport by 1849, and Norwalk and Danbury were connected in the early 1850s. Rail lines along the coast opened between New London and New Haven in 1850, and between New London and Stonington in 1858. The trains still had to use a ferry to cross the Thames River until a drawbridge was completed in 1889.

Railroad's prominence in transportation seemed assured. In 1840, there were 102 miles of track in the state, and by 1850, there were 402 miles of track. By the Civil War, with 601 miles of track, Connecticut had the highest railroad density in the country. The New York, New Haven and Hartford Railroad was the most prosperous enterprise in New England. In 1872, the Hartford & New Haven merged with the New York & New Haven in 1872 to become the New York, New Haven & Hartford Railroad (New Haven Railroad).

Regulation of railroads in Connecticut came on the heels of Connecticut's first major train

disaster in 1853. A New Haven Railroad engineer ignored an open drawbridge signal at Norwalk. The train, carrying many doctors returning from an American Medical Association conference, careened into the river, killing over 20 people. As a result, the first railroad commission was formed that year to ensure public safety on the railroad. Authorized by an "Act to Prevent Injuries and Destruction of Life Upon Railroads by Railroad Trains", the Board of Railroad Commissioners was charged with inspecting railways in the state, regulating speeds, standardizing signals, and implementing directives for safer operations.

By 1900, virtually every town in the state was connected by rail. Rail expansion continued until 1920, when there were 938 miles of track in the state. This boom in rail transportation was not unique to Connecticut. After the Civil War, the whole country became committed to the railroad as the basis for a national transportation system. The Transcontinental Railroad was completed on May 10, 1869, with the driving of the Golden Spike at Promontory, Utah, and major land subsidies amounting to over 130 million acres were granted to fledgling rail companies to stimulate the construction of new rail lines into the uncharted western territories.



The growth of rail in the late 1800s was phenomenal. By 1900, virtually every town in the state was connected by rail. At-grade crossings such as this were common.

By the 1870s, the unrestrained monopoly power of the railroad industry began to be felt by farmers, particularly in rural areas, who had no choice but to pay high prices for shipping their goods into the cities. Widespread complaints brought about government involvement, and in 1887, the United States Congress created the Interstate Commerce Commission (ICC) to oversee the railroads. Basically a measure to satisfy the "populous clamor", this legislation had no real teeth because it did not establish rate guidelines or enforcement provisions, although it apparently did result in lower rates to some degree through the requirement for rail companies to post their rates publicly. More than anything, the creation of the ICC was a harbinger of government control that would later become integral in the railroad industry.

THE TROLLEY-CAR INDUSTRY

While rural areas were the usual targets of highway development, the cities of the rapidly growing industrial northeast needed means for moving large numbers of people efficiently. In addition to railroads, the mass transportation of the mid-1850s consisted of horse-drawn conveyances and stagecoaches. In the early 1860s, street railways -- rails laid down in city streets -- became increasingly common. Street railways maximized the efficiency of moving people; a team of horses that might draw 10-12 passengers in an omnibus over dirt or cobble streets could haul as many as 75 people in a car on steel rails.

Street railways, also known as horse-car lines, connected factories, shopping areas, and workers' homes. In the early days of the steam railroads, railway coaches were also used to shuttle passengers out of the city to their travel connection, since the steam railroad terminals were often located outside the cities. By the 1870s, many cities were crossed by a network of street railways.

The tremendous costs of maintaining horses for this totally horse-powered transportation network prompted the search for mechanical

substitutes. Cable-driven systems came into popular use between 1877 and 1890. In the early 1890s, trolley-equipped cars driven by electric propulsion, first demonstrated at the Toronto Exposition of 1885, quickly became the first choice in the street-railway industry, replacing horses at an astounding rate. In the United States in 1890, there were four and a half times more miles of horse-car lines than electric lines; by 1894, the numbers were reversed, with electric mileage exceeding horse-car mileage by a factor of five and a half.



The trolley revolutionized mass transportation in the 1860s and 1870s. Here, the path of an electric trolley in Windsor Locks shares the main road to Springfield, circa 1900.

DECLINING ROADS

Meanwhile, during the last quarter of the nineteenth century, the roads of the country continued their decline. All that existed was a decentralized system of road management, with almost universal dependence on untrained personnel in the construction and maintenance of roads, and the continued use of compulsory labor in lieu of road taxes. There was an absence of any classification of roads according to their use or relative importance; no distinction was made between main roads, connecting large towns, and local roads, which may have provided access to the main road for only two or three farms. Each town generally had complete control over all roads within its

boundaries, as well as the financial responsibility for maintaining them.

The inability of this system to create and maintain roads severely inhibited any economic activity that required transport outside the limits of a town. Even when there was a desire to create a road, towns lacked funds to purchase road building equipment and the expertise to construct it. The town surveyor-assisted-by-compulsory-labor method of road construction virtually guaranteed that proper expertise would not be brought to bear on the problem. A small town had to pay for maintaining a principal road if it passed through its boundaries without serving local residents. For instance, a road connecting a farm in an adjoining town with a city market benefitted the farm and the city; however, the town responsible for its upkeep reaped no benefit from it. As a result, such roads were often neglected, jeopardizing supplies to the city. Despite these problems, most town residents were resistant to changing this system because of the fear of additional taxes.

During the last few years of the nineteenth century, in recognition of these problems in the roadway network and maintenance, hundreds of individuals, including the Governor of Massachusetts and officials in the U.S. Department of Agriculture, began calling for improved roads. Interestingly, the most effective cry for road improvement did not come from an important dignitary or commercial interest, but from those in pursuit of a leisure activity - bicycling. One of the strongest catalysts for the improvement of our road system came from the newly evolving bicycling craze.

LEAGUE OF AMERICAN WHEELMEN

The bicycle made a great change in lifestyle for many Americans in the late 1800s, offering previously unknown personal mobility. Connecticut was at the forefront of this change, thanks to the "father of the American bicycle", Colonel Albert A. Pope. Pope began importing bicycles to the U.S. in 1876. In 1878, he began

manufacturing them -- in Hartford. Although from Boston, Pope recognized that Hartford was an ideal location for the factory because of its advanced manufacturing facilities and workers skilled in making sewing machines, clocks and firearms. The first bicycles in the United States were manufactured in his Hartford factory, located in the Frog Hollow section.

Tens of thousands of bicycles, including the brand-name Columbia, were manufactured annually by the Pope Manufacturing Company. There were about two dozen competing manufacturers in Connecticut by the end of the nineteenth century.

When the bicycle craze first reached America, the large "penny-farthing" bicycles were prevalent. They were initially expensive to

purchase, difficult to master, and often considered a public nuisance, as the mechanical contraptions scared horses. They were consequently banned from public highways throughout the country. To combat this exclusion, Colonel Pope formed the League of American Wheelmen in 1880. This League, essentially a union of pre-existing bicycle clubs, promoted and aided cycling on a number of fronts by fighting the bans, organizing trips and races, and producing road maps for cyclists.

In the northeast, especially, the League became very popular and successful. In Connecticut the initial 88 members grew to over 2,000 by 1897. Because they had experienced miles and miles of poor roads through their recreational touring, League members became avid supporters of improved highways in America. In 1888, led by



Men's cycling clubs sprang up around the state during the bicycle craze in the late 1800s. The Columbia Cycle Club, shown here circa 1890, is believed to have been sponsored by Albert Pope for workers in his Hartford bicycle manufacturing facility. (Photo credit: Connecticut Historical Society)



Bicycling was a popular leisure activity for women of means during the bicycle craze. Here, members of the Hartford Ladies Cycle Club pose in front of the Soldiers and Sailors Memorial Arch in Bushnell Park, Hartford, 1890. (Photo credit: Connecticut Historical Society)

Lewis Bates of Michigan, the League embarked on a national campaign for road improvement. They favored the enlargement of road districts beyond towns, the abolition of statutory labor systems, the adoption of contracted road work, the classification of roads according to their use, the introduction of scientific methods of road construction, and a taxation system that included state aid for roads.

THE GOOD ROADS MOVEMENT

There initially was a great deal of rural resentment against "elitist" idle rich bicyclists by farmers who feared that road improvements would increase property taxes. The Wheelmen then began an educational program for the "good roads movement". They claimed that

good rural highways would increase land values, open new markets for food, provide consumer access to manufactured goods, increase school and church attendance, end rural poverty and isolation, reduce wear and tear on horses and wagons, and save money on road maintenance. To support their cause they placed articles in magazines such as *Outing*, *Century*, and *Scribner's* and produced their own journal, *Good Roads*. They also allied with other organizations with a rural or agricultural focus, such as the national Grange and the Eastern Seaboard Association, supporting such projects as a continuous highway connecting Boston and Washington D.C., which would include a rebuilding of the Boston Post Road through Connecticut.

In 1892, these organizations formed the National League for Good Roads, whose

mandate was to campaign for state aid for roads and to push the establishment of the National Commission on Highways. The newly formed League was run by several prominent Wheelmen, including Arthur Pope, as well as some distinguished road reform proponents such as General Roy Stone of New York and Senator Charles Manderson of Nebraska. State divisions of the league worked for state appropriations to improve roads and drafted model state-aid laws. On a national level, their work resulted in an appropriation of \$10,000 to the Department of Agriculture in 1893 for the creation of the Office of Road Inquiry (ORI), a bureau whose mandate was to provide information on improving roads. General Roy Stone was to be its head. Placing the ORI (the forerunner of the Federal Highway Administration) in the

Agriculture Department signified the federal acceptance that rural roads needed improvement more than city streets, particularly to allow farmers to get their goods to markets.

The machinery was now in place to head the nation and Connecticut toward improved roads. The ORI provided a center of information for a locally oriented good roads movement and created model legislation for the formation of state highway departments, legislation that was initially drafted by Stone. New Jersey (1891) and Massachusetts (1892) immediately formed highway departments. Connecticut requested copies of the model legislation and California, Maryland, New York and Vermont also began to plan for state highway departments. Clearly, roads were on their way to improvement.

CHAPTER 2

BIRTH OF THE STATE HIGHWAY COMMISSION

1895-1912

THE GOOD ROADS ACT

In Connecticut in 1895, there were about 12,000 miles of roadway. Although there were some paved streets in the cities, the vast majority of these roads were still simple, unimproved dirt roads. With around 2,000 Wheelmen in the state and wedged between two hotbeds of road reform, New York and Massachusetts, the crusade for road improvement seems to have come early to the Nutmeg state. The early campaign for state aid for road improvement in Connecticut was quite vigorous. Several bills for road improvement were submitted to the legislature and its Committee on Roads, Rivers and Bridges. One finally succeeded on July 3, 1895, with Governor Vincent O. Coffin signing into law the Good Roads Act. The State Highway Commission was born.

The Good Roads Act, based at least in part on model legislation produced by the League of American Wheelmen and the federal ORI, appointed three commissioners to oversee the distribution of funds to towns for road construction and ensure that proper construction techniques were used. On July 9, 1895, Governor Coffin appointed James H. MacDonald of New Haven, W.R. McDonald of Cromwell, and A.C. Sternberg of West Hartford as the first highway commissioners. Almost no biographical information on these early commissioners is known. James H. MacDonald, who was to become the first single Commissioner of Highways in 1897, was known as a strong advocate of the good roads movement and was later active in the American Road Builders' Association.

The new highways program had a budget of \$75,000, to be distributed to towns according to

their relative wealth on a matching funds basis. County governments (which existed until the 1950s) and towns were to receive matching funds on an equal basis. In order to receive any funds, the towns had to construct roads that met the state's new standards for construction. These standards required roads to be properly surveyed and engineered using qualified professionals, to be constructed of Telford or Macadam pavement, and to have travel lanes 16 feet wide flanked by two shoulders two or three feet wide. Although construction was under control of the town, the highway commissioners were to periodically inspect the construction of the roads. It was clearly the aim of the Highway Commission to have as many improved pieces of road built in as many towns as possible with the intent that the towns would learn the proper methods of road construction.

The fact that the state had an abundant supply of native stone, both near the surface in ledge formations and in stone walls, prompted the requirement of the hard-surfaced Macadam or Telford road systems. These surfacing technologies had been developed in Europe in the late eighteenth and early nineteenth century. Two Scotsmen, John McAdam and Thomas Telford, separately developed relatively economical methods for providing level, dry road surfaces. Telford's method called for the creation of stone foundation for the road. Consisting of large flat stones, this foundation was meant to serve as a base for approximately six inches of hardened material. The hardened material on top consisted of gravel or earth that had been run over several times with a cast-iron roller topped by a box carrying two or three tons of sand. McAdam conversely recognized that dry soil generally could support the weight of traffic and that pavement was necessary only to provide a smooth, dry riding surface.

Consequently he eliminated Telford's stone foundation. Macadamized roads, as they came to be called, were usually from seven to ten inches thick and consisted of crushed rock packed tightly into thin layers, with a top surface of sand or finely crushed limestone rolled and sometimes watered to provide a well bound and smooth riding surface.

Approximately half the towns in the state inquired about the new program established by the Good Roads Act. Fifty-four (54) towns initially participated, and 17 towns had entered into contracts by September 30, 1895. By the end of 1895, almost \$31,000 had been spent and 35 miles of road had been built, despite a lack of qualified contractors and equipment. Another outcome of the program was a road census conducted by the state, which determined that there were 14,088 miles of road. Of these, 5,558 miles were classified as main roads. Of all roads, only 463 miles were stone or macadam, another 1,896 miles were gravel, and the preponderance, 11,729 miles, were still dirt roads. Clearly the state had a long way to go before it got out of the mud!

* * *

In the Highway Commission's report to the Governor in 1897, Commissioner James H. MacDonald revealed his bias as member and advocate of the Good Roads Movement. He observed that the Good Roads Movement in the state had suffered due to the inherent conservative nature of the Connecticut farmer, who he believed had suffered so much from the loss of men and revenue during the Civil War. According to the Commissioner, farmers had never recovered from this loss, and this conservatively tinged their attitudes 37 years later. MacDonald stated that he had given many Good Roads talks throughout the state, and following established Good Roads and Wheelman policy, had advocated the creation of trunk roads, running south to north and west to east across the state, of uniform width, and following the old turnpikes as much as possible. Still, being a political appointee, MacDonald recognized the political power of the existing

system of distributing funds to the individual towns, and advocated its continuation on a more liberal basis.

The three commissioners found it almost impossible to both supervise road construction and administer the program. The Commission's annual reports of those years mention the lack of staff to assist the Commissioners in these tasks. In 1897, legislation was passed that replaced the troika of commissioners with a single commissioner of a highway department. James H. MacDonald became the first Commissioner of the Connecticut State Highway Department (the Department).

The 1897 legislation made some changes in the highway program. It gave the towns more latitude in certain aspects of road improvement; it allowed them to select the highways to be improved, advertise for bids, and let the contracts, while the state's role remained completely supervisory. The bill also limited the maximum amount to be spent in any one town to \$3,000. It further limited the expenditure to public roads, which it defined as only those main highways which led from one town to another. It further eliminated the counties from contributing to road improvement and from authority over the roads. This bill required the towns and the state to split the costs of road improvement. As a result, from 1897 to about 1908, towns had complete say over which roads would be improved with state funds.

ADVANCE OF THE TROLLEY IN AMERICAN LIFE

As the nineteenth century came to a close, the advancing technology of the trolley car had a major impact on American life. Before 1895, street railways were confined almost entirely to densely populated areas of cities, because the low-voltage direct-current systems used at the time could not transmit electricity for very great distances. Intercity trolley systems became possible, and extremely popular, after the three-phase electrical distribution system came into use in 1894. Unlike the bicycle, the interurban

electric car was convenient, affordable even to lower-paid workers, clean, relatively fast, and provided shelter under any kind of weather condition. Trolleys were used by everyone: families going out to the country for a picnic, rural residents entering the city to shop, fishermen heading to a nearby stream, salesmen making business calls, and resort-goers. For country and city folk alike, the trolley was an event, and allowed a previously unknown mobility for most Americans.

Expansion of trolleys proliferated around Connecticut and around the country. In 1902, there were 987 traction companies in the country with a capacity of 4.8 billion passengers. The trolley industry was big business, and the interurban lines began to seriously compete with the steam railroads, particularly the New Haven Railroad, for both passenger and commercial freight services. Prior to the advent of the trolley, the railroads, which were also converting to electrified lines, had a monopoly on intercity travel. Trolleys generally had lower fares than railroads, were often more comfortable, and were usually more convenient, especially for short trips. To beat the competition and capitalize on what some believed was still a growth industry, the New Haven Railroad decided to acquire all of the trolley properties in southern New England, investing about \$120 million from 1904 to 1907 -- a considerable sum and more than the company's own capitalization at the time.

The New Haven Railroad's trolley acquisition started first in Connecticut. The New Haven trolley lines were acquired from Fairhaven & Westfield Railroad in 1904, followed by Greenwich trolley lines bought from the Greenwich Tramway Company, and Hartford trolley lines acquired from the Hartford Street Railway Company, as well as lines operating in other towns, including New London, Norwich, and Montville. Within a year and a half, almost all traction properties in Connecticut had been acquired, and were organized under a subsidiary corporation called the Connecticut Company. But trolley construction had already fizzled out in Connecticut by 1903, and financial

difficulties associated with overbuilding were beginning to surface. Financial problems were waiting "down the line" for the New Haven Railroad.



While the newly formed Highway Commission crusaded for road improvement, the trolley, which had become the most popular form of transportation, took full advantage of the every-growing network of roads, as in this picture taken in Glastonbury.

THE BEGINNINGS OF THE STATE AID HIGHWAY SYSTEM

To better understand the needs of the state, the General Assembly appointed a special committee to canvass the towns to determine the number of miles of town highways in each town and to gather opinions from each selectman as to the kinds of roads best suited for each town. It was determined that there were approximately 2,300 miles of inter-town roads and that these roads should be about one-half macadamized and one-half gravel surfaced. The report also showed that only 178 miles of these roads were paved; 515 miles were gravel and the remaining miles were dirt. The committee further recommended that the state subsidize road construction based on a sliding scale. The state would pay three-quarters of the road building cost in towns with a grand list value of less than \$1 million, and two-thirds of the cost to towns with grand lists over \$1 million. It further recommended that the annual

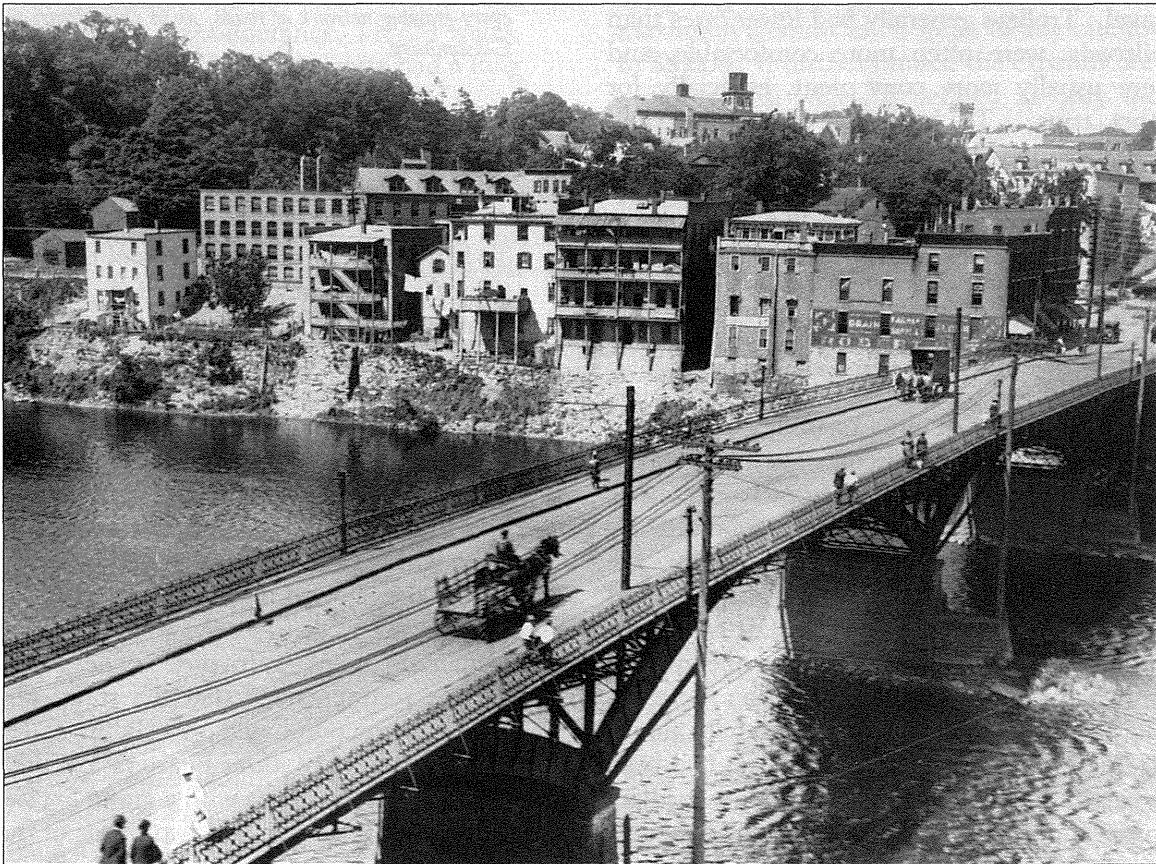
appropriation be such that approximately 80 miles of highway could be built a year, so that the entire network of inter-town roads could be improved in about 25 years.

Based on these recommendations of the special committee, new legislation was passed in 1899, called Chapter 175, "An Act to Provide for the Improvement of Roads". The act incorporated the sliding scale of funding road construction projects and authorized the state to appoint highway inspectors. Appropriation to the Department increased from \$150,000 to \$450,000 in 1901. In 1899, 48 miles of new road were built at a state cost of \$99,000.

Chapter 175 did nothing, however, to change how road projects were selected. The choice of roads to be built or improved remained in the hands of town first selectmen. The most

important roads were not always those selected for funding. Bemoaning this situation, Commissioner MacDonald rather bitterly noted in 1901 that, during the previous half century, so much money had been wasted on unwise building and repair of roads that, had this money been directed into more necessary improvement, a first-class highway between all of the hamlets, villages, and cities of the state could have been constructed. He further observed that:

"there were jealousies to have the road to be improved in front of every man's house who resided in the town; 15,000 miles of roads, the majority of which needed improvement; over 5,000 miles of these main roads all of which needed more or less treatment; large bonded indebtedness, small grand lists, large taxes to pay, farmers overworked and poorly paid."



While trolley and rail transportation abounded, walking and use of the horse were still popular at the turn of the century.

AUTO REGISTRATION BEGINS

The need to create improved roads was magnified by the increasing numbers of automobiles in the state. By 1901, there were so many that Connecticut enacted the first automobile traffic law in the country, limiting speeds to 15 miles per hour in the country and 12 miles per hour in the city. Not only was this for safety reasons, but increased speeds from cars with narrow, hard rubber tires destroyed the dust binder on macadamized roads, creating ruts and eventually ruining the roads. In 1903, the state began to require registration of automobiles, with owners initially required to make their own license plates. In the first year of this law, some 1,500 drivers registered 1,353 vehicles with the Secretary of State.

By 1905, nationally, the spirit of Progressivism reigned. Although Progressivism is usually associated with issues of voter initiative, reform and recall, the general Progressive attitude in terms of public works projects was to centralize authority and to place the design, construction and supervision of major projects in the hands of qualified engineers. This sentiment was also prevalent in Connecticut and would affect not only highways, but other major transportation modes as well.

Centralization of control and requirement of technical competency was particularly extended to highway design and automobiles. In 1905, the legislature placed the responsibility for all roadway engineering on the state, with an appropriation of \$30,000 to cover that cost. Additionally, after years of complaints of poor maintenance by the towns, the state took over the maintenance of state aid roads. In the same year, legislation was passed requiring that motor vehicle number plates be provided by the Secretary of State. Registration fees were based on the horsepower of the car; the fee was \$3 for an automobile with less than 20 horsepower, \$5 for 20-30 horsepower, and 50 cents per horsepower for vehicles with over 30 horsepower. This was followed in 1907 by additional legislation requiring the licensing of drivers for a fee of \$2.

Funds obtained from automobile registrations, drivers' license fees, and traffic fines was to be used to fund maintenance activities. Although the legislature had authorized the Highway Department to take over road maintenance on state roads as early as 1899, this responsibility was confirmed in the 1907 legislation, which clearly placed the obligation for highway repairs and maintenance on the state. Towns were required to refund one quarter of the funds expended for repairs within their borders, an unpopular aspect of the law that was repealed in 1923.

THE TRUNK LINE HIGHWAY SYSTEM

Commissioner MacDonald continued his push to establish a distinct trunk line system. In 1900 he issued the following report:

"The effort of the State has been directed in accordance with the laws under which we have worked, to the improvement of the present existing main highways, and it will be some time before the present existing highways are brought into proper condition necessary to accommodate the travel with convenience and comfort. Indeed, any policy removed from this, with the main highways needing attention so much, would not be wise.

While these highways, as they now exist, are not at all times as direct for through travel as we would wish to have them, they fully answer the purpose originally intended, of communication between the farm and the market.

No trunk line through the State east or west, north or south, laid independently of the main highways now existing, would answer the purpose of assisting produce to market as well as the now existing main highways.

When the main highways now existing have all been improved, it may be thought wise to build an independent trunk line, but, for the present, the State money and all our energy should be used on what we have to improve without laying out any new work."

MacDonald felt that the state was overloaded with too many small roads, and that if the

number were divided by two, the towns' indebtedness would be greatly reduced. In his report to the Governor in 1900, MacDonald submitted a map and description of ten north-south and three east-west trunk lines in addition to the Boston Post Road, which he noted would be completely modernized because the shoreline towns were focusing their state appropriations on this road. He recognized that there were only a few main trunk lines running from east to west due to heavy grades and mountainous conditions found in the eastern and western parts of the State. The total trunk line system covered 1,400 miles, described as:

"Beginning at the State Line in Rhode Island and extending westerly through Salisbury, into Massachusetts.

The second beginning at the State Line in the Town of Sterling and entering New York State near Kent.

The third trunk line begins at the State Line in the Town of Killingly and runs to New Milford; thus, we have fourteen trunk lines which are practically the principal highways of the State, the Old Boston Post Road being the first and most important; then the ten trunk lines running from it to the north; and the three trunk lines running east and west."

In 1908, Commissioner MacDonald reported on the progress of the trunk line system improvement. It was approximately 53 percent complete, but he emphasized that most of the work lay in improving the trunk lines following the Old Post Road, the New Haven to Springfield route, and the trunk line running through the Naugatuck Valley up to Colebrook.

By 1911, highway improvement was an issue of major national interest. Led by automobile interests, such groups as the Lincoln Highway Association pushed for an improved transcontinental route, while the National Highway Association presented plans for a 51,000 mile system of trunk lines and a web of roads connecting every state capital. Between December 1911 and July 1912, over 60 road bills were introduced in Congress. However, initial federal aid for highways was quite limited,

focusing on farm-to-market roads and roads for rural free delivery, with federal aid to states coming from the Post Office budget. Many states with no highway departments formed one during this period, as this was a prerequisite to the receipt of federal funds. However, full scale federal involvement was still another five years distant.

In Connecticut, by 1913, promotion of the state's trunk lines had succeeded in the construction of almost 605 miles of MacDonald's trunk line system and contracts were in effect for another \$1.2 million of roadway construction. There were 319 miles of new state aid roads and contracts for state aid road construction were valued at close to half a million dollars.

WATERWAYS AND AVIATION

Water-borne transportation came under the scrutiny of the state in 1909, when the General Assembly authorized the establishment of a Rivers and Harbors Commission to investigate and report upon the state's waterways. In 1911, the state directly entered the realm of waterway transportation when the Connecticut General Assembly appropriated \$1 million for construction of a steamship terminal at New London, to be known as the State Pier.

This period also saw the first state regulations concerning the operation of airplanes. In 1911, Governor Simeon E. Baldwin presented to the General Assembly a proposal to regulate air transportation. Acknowledging the airplane's potential "as a regular mode of transportation between distant places", he recommended:

"the passage of a statute providing for their registry in the office of the town clerk in each town in which one is owned: forbidding their use for flights within this state unless in the charge of someone approved by a competent authority as capable of directing their course with due skill and care."

This act is considered the first aeronautical law enacted by a government agency; it would not

be until 1926 that the federal government would pass the Air Commerce Act, which included certifying pilots. The Secretary of State's office was charged with enforcing the new Connecticut law, since aircraft registration and pilots' licenses were issued there.

REINING IN THE RAILROADS

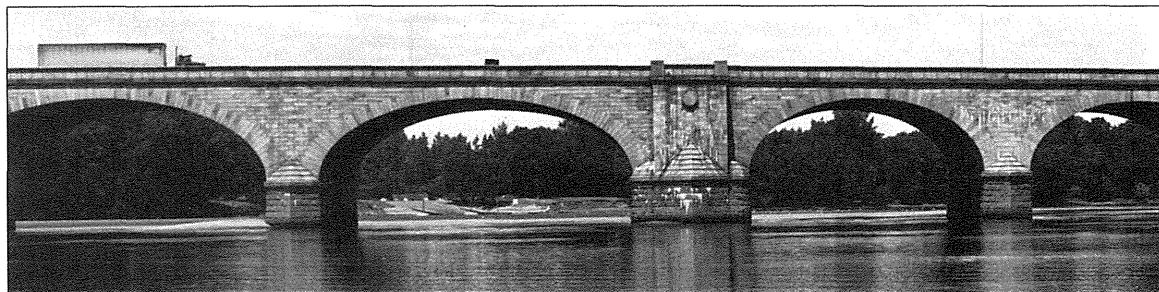
In the early 1900s, railroad companies were merging and further consolidating their monopoly powers, so, despite the success of the competing trolley industry, railroads came under further regulation. The Interstate Commerce Commission (ICC) had been under pressure for years to establish rates for the railroads. The ICC already had the power to veto rates that appeared "unjust and unreasonable", but had never actually set rates. In 1906, this changed when Congress passed the Hepburn Act, which authorized the ICC to establish the rates railroads could charge for commercial shipping and to approve or deny rate increases. The first major test of the act came just two years later, in 1908-1909, when dropping freight revenues caused railroads to unsuccessfully seek rate increases.

In Connecticut, railroads had been under state regulation since 1853, prompted by the rapid growth of the railroads in the early nineteenth century. The first regulatory authority, the Board of Railroad Commissioners, inspected

railways, regulated speeds, standardized signals, and implemented safer operations. In 1911, this authority was absorbed into the Public Utilities Commission (PUC), created in that year by the General Assembly under the "Act Concerning the Regulation and Supervision of Public Service Companies". This act brought regulation to the trolley industry, as well, for the Commission's purpose was to regulate railroads, street railways, and any express companies that had special privileges on railroads or street railways.

BRIDGES REPLACE FERRIES

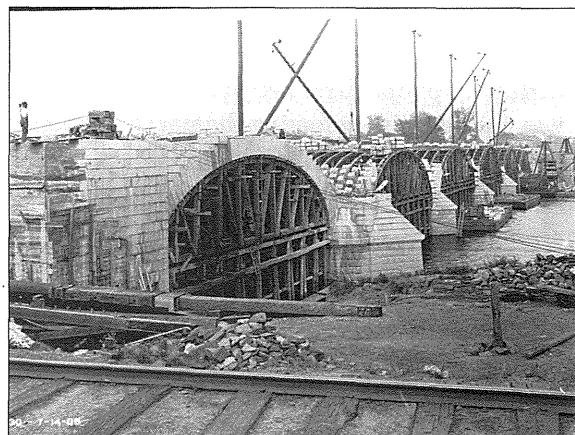
Although the state did not yet have complete control over the construction of most bridges, several major structures were completed early in the twentieth century. In 1907, the Hartford Bridge (now named after U.S. Senator Morgan Bulkeley) was completed across the Connecticut River at a cost of approximately \$3 million. This grey and pink granite bridge between Hartford and East Hartford was one of the last major stone arch bridges built in the state. This much-anticipated bridge replaced the 1818 covered bridge which had burned in 1895, such that ferries were once again in business. Its multiple arches extend 1192 feet in nine spans that rise about 45 feet above low water. A large bridge, it was originally 82 feet wide and was traversed by double trolley tracks down the center of the bridge.



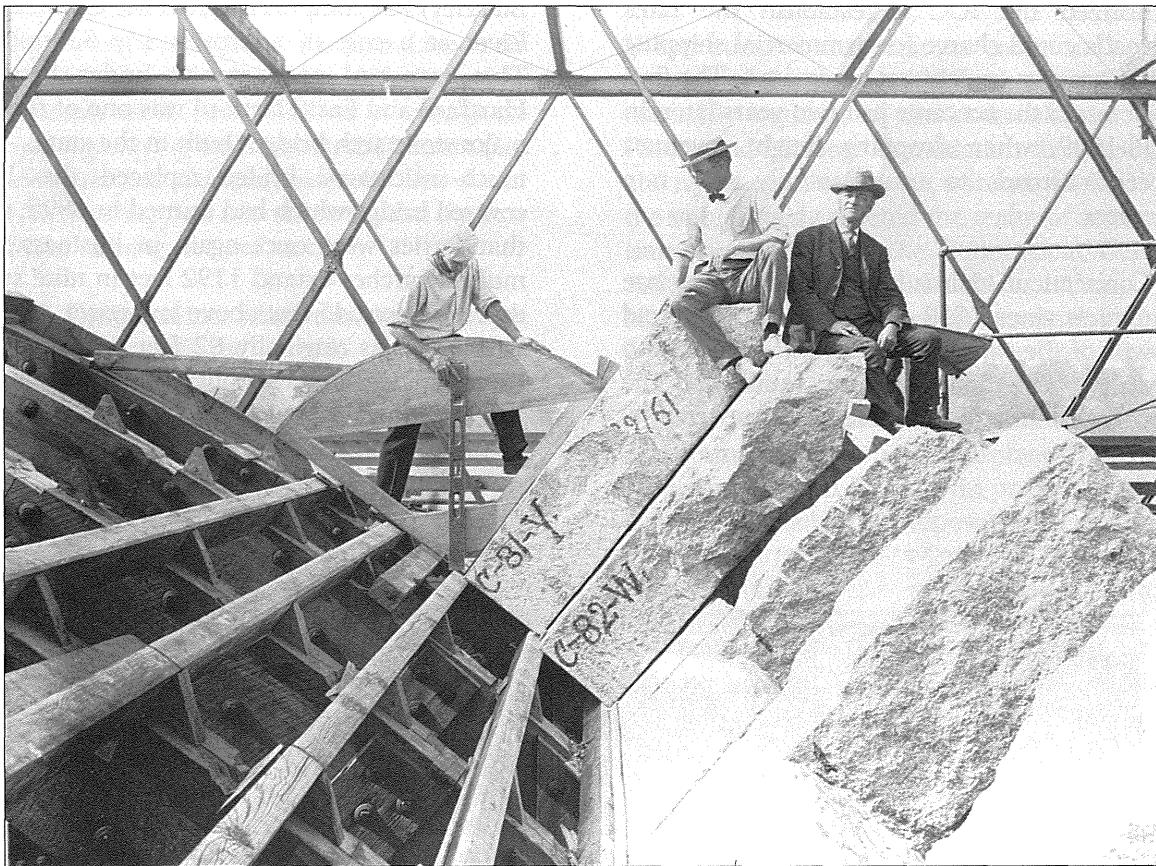
The Hartford Bridge between Hartford and East Hartford, known since 1922 as the Bulkeley Bridge, opened in 1907. The former bridge between the two cities was an 1818 covered bridge that had burned in 1895.



As originally built, the Hartford Bridge was 82 feet wide and had double electrified trolley tracks down the middle. (Photo credit: Connecticut Historical Society)



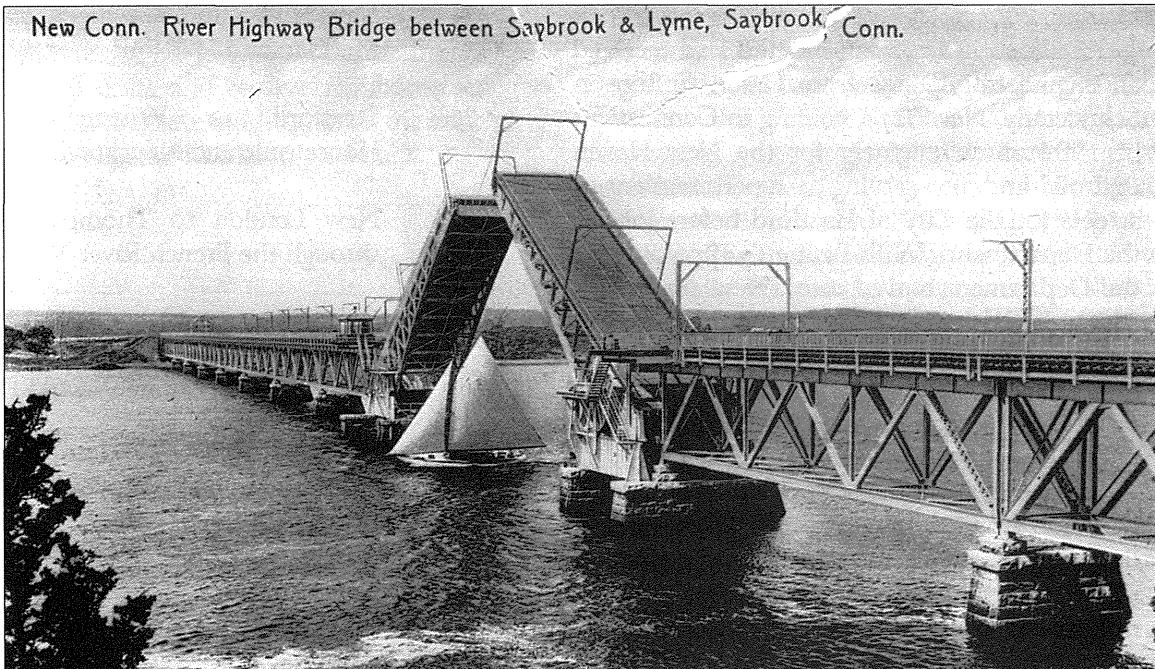
Under construction from 1903 to 1908, the bridge required over 100,000 cubic yards of pink and grey granite. Five of the bridge's arches have longer spans than any other stone arches in the state. (Photo credit: Connecticut Historical Society)



Workers carefully measured the angles of each granite block placed during bridge construction. Stone cutting tolerances were phenomenally close, less than 3/8" over the face of each 10-ton block. (Photo credit: Connecticut Historical Society)

In 1911, the Saybrook-Lyme toll bridge was dedicated, replacing a small steam ferry that had previously connected the two towns. This 1,800-foot long steel bridge contained a section that was a two-arm rolling lift draw bridge which could create a 200-foot clear opening for the passage of ships. The 24-foot wide roadway had

a trolley track laid down its length. With an initial speed limit of 6 miles per hour, this bridge provided vital access to the summer resort and fishing towns of the southeastern coast of the state. The \$500,000 bridge was opened with great fanfare, including a 1,000 car motorcade led by Senator Bulkeley.



The Saybrook-Lyme Drawbridge opened in 1911, providing greatly enhanced access to the coastal towns of southeast Connecticut. (Photo credit: Connecticut Historical Society)

CHAPTER 3

EXPANSION OF THE DEPARTMENT

1913-1922

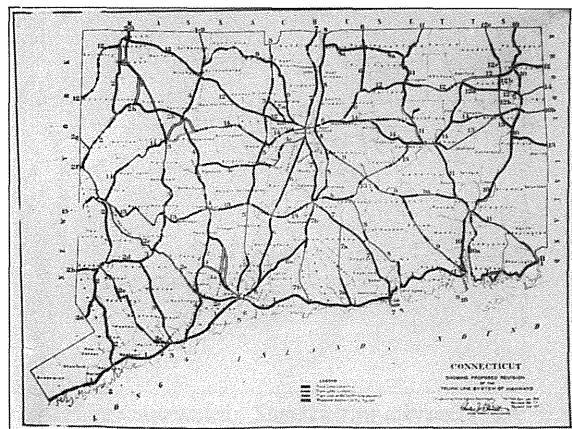
EXPANSION OF OPERATIONS

Charles Joseph Bennett became the second Commissioner of the Highway Department in 1913. Born in England, Bennett had received an engineering degree from Union College in Schenectady, New York, coming to Connecticut in 1904 as an engineer for the New Haven Railroad and also serving as superintendent of streets for the City of Hartford before joining the Department. With Bennett's appointment, the Department moved into a new era, one in which the basic concept was that the state had a duty to build and maintain an efficient and high quality road system. New building materials were used and roads were continuously improved.

Some of the first new materials tested were in the area of road surfacing. As previously mentioned, the stress of automobiles on macadamized surfaces frequently caused roadways to disintegrate into great billowing dust clouds. To combat this, the state began building concrete paved roads in 1913, the first section of which was built in the Terryville section of Plymouth on a portion of what is now U.S. Route 6.

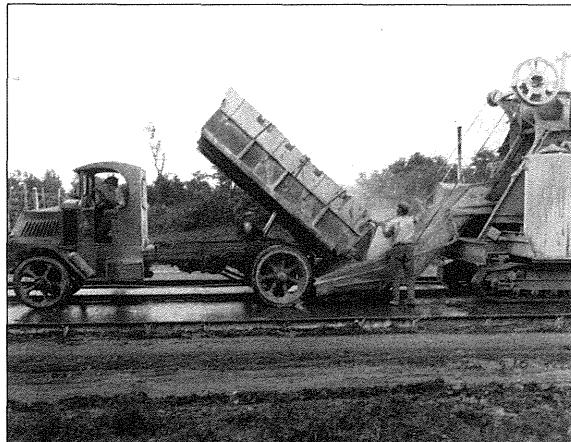
By 1913, Commissioner Bennett had refined the trunk system to 14 trunk lines with a total length of just over 1,000 miles. They essentially followed MacDonald's routes, with a few shortening modifications. In 1913, the state legislature recognized these roads as a separate and complete responsibility of the Highway Department and appropriated direct, non-matching funds for their improvement. By 1914, the Commissioner noted that 60 percent of the trunk lines were improved with the following seven trunk lines virtually complete:

1. The road from New York to Westerly, Rhode Island, along Long Island Sound
2. New Haven to Springfield, by way of Meriden and Hartford
3. Stratford to Winsted, up the Housatonic and Naugatuck Valleys
4. New London to Thompson, passing through the French River Valley
5. Danbury to the Rhode Island border through Waterbury, Hartford, Manchester, Willimantic and Putnam
6. Norfolk, through Winsted and Hartford, adjoining the road to the east mentioned above
7. The road from Saybrook to Hartford and thence branching east and west adjoining the two roads mentioned above.



Map of the trunk line system as it existed in 1915, with revisions to 1929.

Throughout his term as Commissioner, Bennett pushed to complete the trunk road system and fill in the gaps in the State Aid roads leading to the trunk lines. He developed several special funding methods to permit the state and the towns to construct or improve large sections of roadway all at once rather than in piecemeal fashion over several years. One method, passed by the state legislature in 1913, empowered the Commissioner to enter into an agreement with a town for construction that exceeded the value of a single year's normal or anticipated appropriation. The town would pay the full construction costs and receive reimbursement annually from the state aid fund until the state's share of the expense had been paid back.



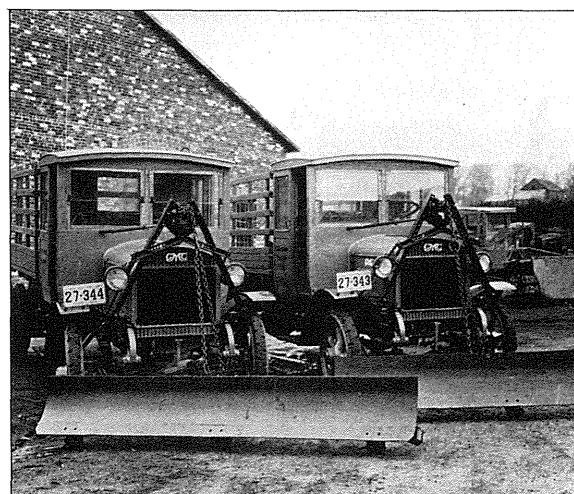
New materials and methods were employed by the Highway Department to improve roads, including the construction of concrete paved roads beginning in 1913. This photograph dates to 1915.

Bennett's efforts to complete the gaps in the road system was affirmed by the 1919 General Assembly's special appropriation of an additional \$600,000 to complete the unfinished sections in the State Aid system. Still, Bennett estimated that it would cost another \$24 million to complete the trunk line system and another \$9 million to complete the State Aid system. State funding was nowhere near enough; the

legislature appropriated only a small fraction of the needed funds, allocating only \$2 million to reconstruct trunk lines with hard surfaced pavements.

Over time, more and more responsibility and control over Connecticut's roads was placed in the hands of the Highway Department. In 1915, the General Assembly placed the responsibility for bridge construction on the Highway Department. At the same time, all state-owned toll bridges and ferries were transferred to the Highway Department. The legislature also authorized the Department to petition the Public Utilities Commission to remove as many at-grade railroad crossings as possible. Two major bridges were built during this period: between 1917 and 1919, the Thames River railroad bridge was converted to automobile use and the bridge over the Niantic River between East Lyme and Waterford was built.

In 1917, for the first time, the Highway Department was authorized by law to clear the trunk line highways of snow. This function was so well received that succeeding sessions of the General Assembly enlarged the authority to cover all highways maintained by the Department.



Highway Department snow plows in 1922.

ORGANIZATIONAL CHANGES

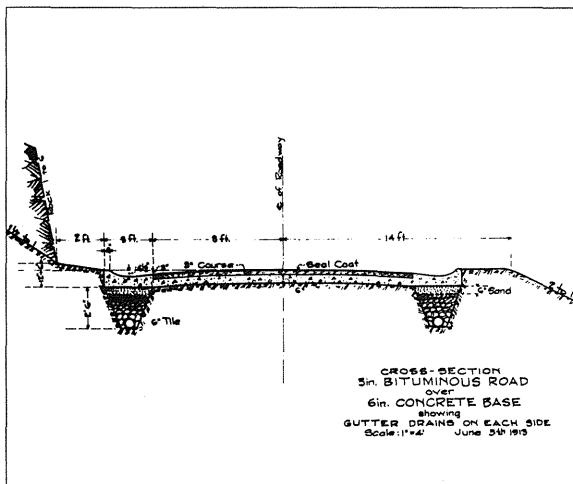
Commissioner Bennett realized that in order for the Department to make significant progress in the improvement of the highway system, there needed to be improved organization. Bennett identified three basic functions of the Department and, accordingly, formed three bureaus within the Department: planning and construction of highways under the supervision of a deputy highway commissioner; repairs of highways under the charge of a superintendent of repairs; and accounting and records under a chief clerk.

The planning and construction of highways was delegated to the direct charge of seven division engineers corresponding to the seven construction divisions located throughout the state. The divisions were located in Hartford (2), New Haven, Norwich, Winsted, New Milford, and Middletown. Each division engineer prepared all plans for the construction of roads within that division. Specifications and proposals were prepared at Department headquarters in Hartford from information transmitted by the division engineers. Contract letting and bids were also prepared and supervised from Hartford.

The superintendent of repairs was responsible for 11 repair districts, each of which was under the stewardship of a district supervisor. Repair districts were located in Hartford, Windsor Locks, West Willington, Putnam, Norwich, Deep River, New Haven, Naugatuck, New Milford, and two at Norwalk. The supervisors, in turn, employed foremen and laborers who performed the repair work. To support the repair districts, by 1917, the Highway Department had established a central repair facility in Portland. Eventually known as the Portland Plant, the facility was used to maintain and manufacture equipment that the Department needed.

Under the chief clerk, a group of accountants maintained a system of double entry bookkeeping that was modified to meet departmental demands. Each contract was entered against the annual appropriation as a charge. Consequently, it was possible to obtain at any time the balance of funds available for work to be done. The accounting bureau also maintained charts which showed the total amount of appropriation to be expended, and the rate at which the money should be spent in order to be properly supervised yet expended before the end of the appropriate fiscal year.

To carry out all of these various duties, Department personnel in 1918 consisted of the following: 10 headquarters staff (located in Hartford); an assistant superintendent of repairs; a special assistant; a chief draftsman; a bridge supervisor; a superintendent of the Portland plant; six division engineers in field offices; and eleven supervisors of repairs in field offices.



In the 1910s and 1920s, each division engineer in the seven newly formed construction divisions prepared all plans for the construction of roads within that division.

STATE PIER CONSTRUCTION

In 1911, the state had appropriated \$1 million for construction of a steamship terminal at New London. Construction of the State Pier in New London started in 1914 and was completed in 1916. During dredging operations, a large number of iron cannonballs and shot were uncovered, dumped in the harbor during the

Revolutionary War to prevent capture by the British. In 1916, while World War I raged in Europe, the Germans berthed the first ocean going cargo submarine, *Deutschland*, at the pier, carrying a cargo of textile dyes. The Germans subsequently built sheds for receiving cargo, which ultimately reverted to the state. The Navy took control of the pier during both World Wars. The first commercial steamer, *Western Glen*, docked at the pier in 1919 to discharge 6,488 tons of flour.

The location, on property owned by the Central Vermont Railroad, was selected with the understanding that large amounts of freight would be coming through via the Central Vermont Railroad. That railroad and the Canadian National Railroad offered differential rates to the middle west, making them the preferred carriers. In 1922, both the Central Vermont Railroad and the Canadian National Railroad diverted a large number of automobiles and general cargo to the State Pier for shipment to Australia and New Zealand. The deal, however, was canceled by the Canadian ports who put political and economic pressure on the Canadian National Railroad to ship through home ports.



The location of the State Pier in New London was selected primarily because of its access to rail. It opened in 1916.

From 1914 to 1969, the pier was administered by a series of commissions, the last being the Commission of Steamship Terminals.

WORLD WAR I AND THE FEDERAL-AID ROAD ACT OF 1916

World War I, even before the United States officially entered the war in 1917, had a tremendous effect on highway development countrywide. From about 1915 on, efforts to supply munitions, food, and supplies to Europe began to overtax the capacity of the country's rail lines. As railroads increasingly failed to keep up with national demands, people looked increasingly to the roads for their commerce and travel needs. This situation undoubtedly contributed to the passage of the first Federal-Aid Road Act in 1916, although national lobbying efforts had been ongoing for years.

The 1916 Federal-Aid Road Act provided aid only to those roads directly under control of a state highway department, and funds were limited to \$10,000 per mile. The intent of the legislation was primarily to improve Rural Free Delivery (RFD) roads while avoiding the formation of disconnected patterns. The Connecticut Highway Department used the meager available federal appropriations for improving and completing the trunk line system, as it was part of the RFD system. The first contract let under the act was to provide concrete pavement for a section of what is now Route 10 in the Hamden-Cheshire area in 1917. Other roadway sections that received aid



Funds available under the 1916 Federal-Aid Road Act assisted the Highway Department to construct and improve the trunk line system, including portions of the Portland-Glastonbury Road, shown here.

included Glastonbury to New London, Bethel to Bridgeport, Norwich to Westerly, and Danielson to East Killingly.

The early years of the 1900s were years during which Highway Department and construction contractors learned and moved forward together in the art and science of roadway construction. Some of the new methods being tried included drilling and blasting of rock; sub-base, drainage and concrete paving processes; construction machinery development; and the use of small gauge railroads, with steam engines, to haul materials to the job site. After World War I, steam engines were being replaced by the newer, more capable gasoline engines. In the winter of 1922-1923, the first gas-powered shovel was brought to Connecticut, and in spring of 1923, was first used on federal-aid road construction from Litchfield to Torrington.



Gas-powered shovels were first used in Connecticut in 1923. Here, a shovel assists construction on a site in 1934.

RAIL SHORTAGE USHERS IN THE NEW DAY OF THE AUTOMOBILE

The reliance on rails was made clear by the events surrounding World War I. Because of a mild recession before the war, the railroads had already cut back on construction of new rolling stock (rail cars) and cargo facilities. Then the successful U-boat campaign against merchant shipping in 1916 created a shortage of ships,

making it impossible to unload rail cars at ports. A manpower shortage further limited the speed at which the cars could be unloaded, so that the rolling stock was not being returned to use.

By early 1917, the railroads were suffering a shortage of 158,000 cars. By November, 1917, 180,000 rail cars were trapped in eastern ports, unable to unload, resulting in dramatic coal and food shortages, particularly on the east coast. The severity of the rail situation was exacerbated by the passage of 1,321,000 outgoing troops through the ports and one of the worst winters on record. Rail construction continued through these years in an attempt to meet these needs with rail mileage peaking in Connecticut in 1920.

The incapacity of the rails under these extreme conditions turned attention to the roads once again. The successful trip made by the United States Army to drive heavy motor trucks from Detroit to Baltimore in the middle of the winter of 1917, for delivery to France, garnered further support for the betterment of highways under the auspices of national defense. After the war, in 1919, the Army further promoted the improvement of roads by driving a 75 car caravan coast-to-coast.



By the end of World War I, motor trucking was firmly established as a means of transporting freight, in competition with the railroads.

In addition to these promotional events, economic circumstances were building favor for

highway travel. In the late 1910s, with the railroad shortage in full effect, motor trucking became a viable alternative, and, since trucking was not regulated and truckers could undercut railway rates, it was also an economic alternative. By the time the war ended and the railroads were released by the government, the railroads had permanently lost many customers to trucking.

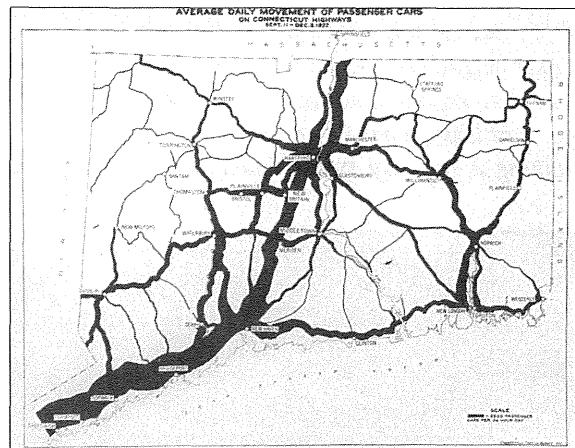
By 1921, the highway promoters had managed to obtain the passage of the first Federal Highway Act. This act mandated that federal aid be focused upon "such projects as will expedite the completion of an adequate and connected system of highways, interstate in character." The intention was to create a system of strategic access points and highways connecting all capitals and important cities. The bill specified that funding could be applied to only 7 percent of a state's total road mileage, 3 percent of which could be primary roads and 4 percent secondary roads. The bill still emphasized rural roads; 40 percent of the funding was for farm-to-market roads, which then comprised 80 percent of all roads in the United States. Connecticut received \$2.5 million, which was focused on interstate road replacement.

CONNECTICUT'S PROGRESS IN ROAD IMPROVEMENT

Despite the beginnings of federal aid, Connecticut was unable to make significant progress in road improvements. In 1921, Commissioner Bennett recognized that only about 13 percent of the state's roads were in an improved condition. He asserted that the increasing traffic (on the order of 1 car per 14 residents), which was causing severe congestion, would require expanded and improved roadways. He wrote:

"It will be well for us again to outline the existing conditions. There is at present in the State 12,000 miles of highway, including all types of rural and State roads, not including city streets. Many of these miles are unused, and possibly may be discontinued. On the other hand, there are State road improvements

made to the extent of approximately 1,600 miles, or a very small proportion of the total mileage, no matter how much it may be curtailed due to discontinuance. On this system of State roads is concentrated a tremendous traffic. Statistics show that approximately there are fourteen persons to each passenger car in the State, and this proportion is gradually changing so that eventually we may expect at least one car to each ten persons. Somewhere, of course, the number of passenger cars must stop increasing but we have no accurate measure of the extent to which motor trucks may be used in the future, nor have we any means of determining the ultimate number of car miles to be operated by passenger car or truck."



This 1922 map of average daily passenger cars reflected the relative use of Connecticut's roadways, which were already considered congested. These same roads were also heavily used by motor trucks.

The indications are, therefore, of an increased traffic to an unknown extent. Even with the present ratio of motor vehicles, our improved roads are subjected at times to a traffic at times beyond their capacity. If it were possible to divert this traffic to other roads during periods of congestion, our difficulties would be much less, and the possibility of accidents and delay materially reduced. Until we can extend our highway systems, it must be easily seen that these congestions will continue; that the difficulty of maintenance will

increase, and that there will be unquestionably dissatisfaction with the highway system of Connecticut.

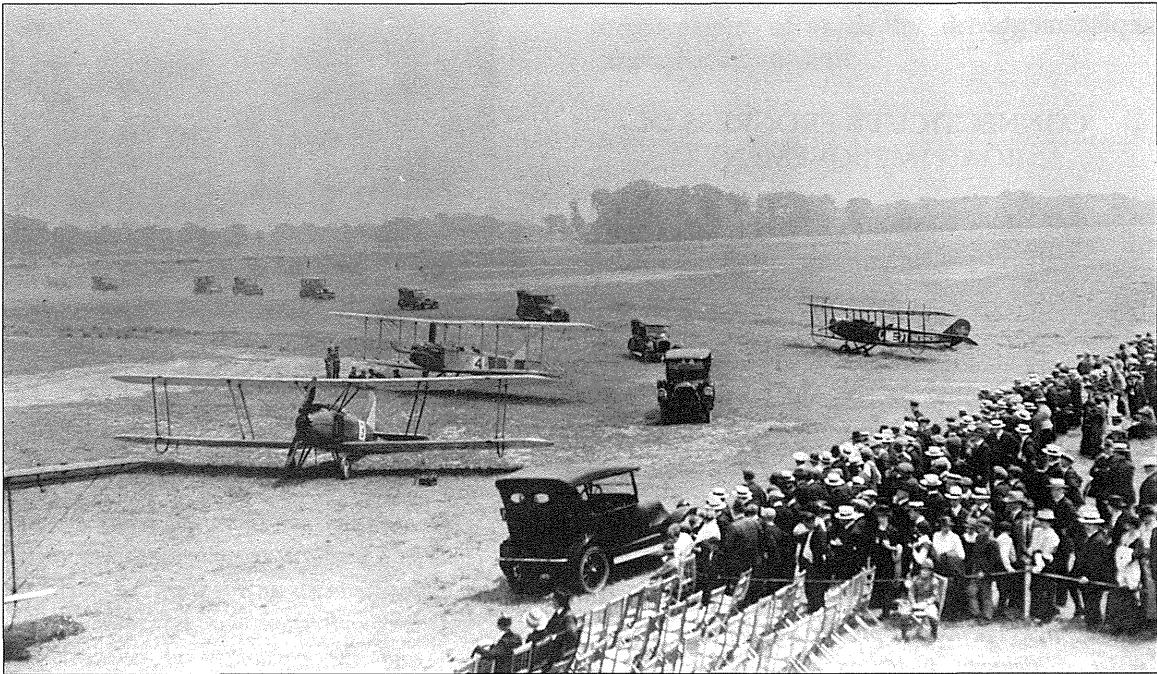
Our problem, therefore, is two-fold; we must improve the surface, widen and straighten our existing State highways at an enormous cost; and we must also extend our present highway systems in order that the congestion of traffic may decrease. It is hard to state which of these two necessities is the greater. Given to choice, however, it would seem that it is far more necessary to make our present roads more adequate for travel, even at the expense of extensions -- but both are important -- and to provide for the necessary roads of proper condition to accommodate the motor vehicles we have at present licensed in this State would demand the expenditure of very nearly \$40,000,000 immediately. With this expenditure, we could safely say that our highway system was adequate for the purpose of existing traffic.

It is idle to expect that any such expenditure could either be authorized or made within a reasonable time (so that we must face the necessity, for the next few years at least, if not for an indefinite length of time, of having a highway system inadequate for the traffic

demands), and this fact should be thoroughly understood by all. In the opinion of the writer, the demand for improvement in highways will increase until some radical means of meeting the demand is found by the legislature.

It is unquestionably true that the legislature is not in a position to understand the needs of the State as a whole and the effort on the part of this Department is to gradually educate the general public to the conditions and make suggestions as to the necessities which seem to face us.

The expenditures for highways for the next two years will be curtailed rather than increased unless the increase in motor vehicles far exceeds the estimate made when the fees were passed. Our main difficulty is to get the information of conditions to the public as a whole. To illustrate, everyone knows of one or more highway conditions which are bad and which should be corrected. Very few, if any, have any knowledge of the total number of such incidents which demand attention and the total expenditure necessary to correct all the difficulties which face us. It is only when general dissatisfaction with the system as a whole becomes so



The Hartford-Brainard Airport was dedicated on June 10, 1921. Named after former Hartford Mayor Newton C. Brainard, the airfield was the first "flying field" in the New England states. Today it is one of the six state-owned airports and serves as the reliever airport for Bradley International Airport. (Photo credit: Connecticut Historical Society)



Teamsters were a powerful force in road construction during the early 1900s. Here, teamsters carry out work on an underpass cut in Windsor in 1917.

serious that drastic steps will be taken to improve conditions which are at present inadequate as stated above."

In order to obtain more money for transportation, the legislature in 1921 instituted a gasoline tax, but the receipts were designated for the Connecticut General Fund and had little effect on highway expenditures. Not until 1923 was this money earmarked for the Highway Fund.

EXPANDED REGULATION OF MASS TRANSPORTATION

The rising importance of motorized vehicles (and by extension roadways) for mass transportation was reflected when, in 1921, the responsibilities of the Public Utilities Commission (PUC) were expanded to include

the regulation of motor buses. The PUC, as before, continued to regulate railroads, street railways and express companies having privileges on railroads or street railways. The PUC remained the sole regulating authority of these various forms of mass transit until the 1960s.



In 1921, the growing fleet of motor buses came under regulation by the Public Utilities Commission.



In the 1920s, the Highway Department operated traffic census stations, such as this one on the Boston Post Road from Norwalk to New York. This truck was carrying "rabbit fur net weight 4 tons".

CHAPTER 4

RECONSTRUCTION AND MODERNIZATION

1923-1940

STREAMLINING OPERATIONS

In 1923, John A. Macdonald was appointed the new Commissioner of the Highway Department by Governor Templeton, remaining until 1938. From Putnam, Macdonald had a civil engineering degree from Valparaiso University, Indiana. Prior to his appointment, Commissioner Macdonald had been a concrete salesman and, from 1917-1923, had served as a deputy commissioner of the Department of Motor Vehicles. Macdonald's term can be characterized as one of further modernization. Roads were resurfaced, straightened and repaired, while major planning and construction were undertaken for the new east-west Merritt Parkway.

Immediately, Commissioner Macdonald called for improvement and completion of the existing highway system because of "tremendously increasing highway traffic." During this period, railroads continued to decline in importance and automobiles increasingly took their place. In fact, there were 250,000 cars registered in the state. Macdonald called for the expenditure of between \$35 and \$40 million. At a cost of \$40,000 per mile for roadway improvements, the almost \$9 million a year that the state received from gasoline tax and automobile fees would provide less than half the funds needed to improve almost 1,500 miles of roadway over the course of five years, even with another \$2.5 million in aid coming from the federal government.

ESTABLISHING RIGHTS-OF-WAY AND STANDARDS

During the course of roadway reconstruction, visible property boundaries such as ditches and

stone walls were often filled and/or removed. To ensure that the state laid proper claim to its rights of way, in 1923 the Highway Department



Construction of the Boston Post Road in 1925 utilized steam plants which powered such equipment as jackhammers (top) and utilized reinforced concrete construction (bottom).

established boundaries for all state highways. In 1925, formal attention was given to the needs of roadside stabilization and beautification. The Landscape Bureau, later known as the Bureau of Roadside Development, was established to perform tree care, erosion control work, and maintenance of roadside picnic areas for which Connecticut was well known. Uniform sign installation for state highways was provided by law in 1927, under the responsibility of the Division of Highway Control. In addition, efforts were made to standardize bridge design, culminating in completion of a set of design standards in 1930.

Under Commissioner Macdonald, many roadway standards and classifications were established. He called for 100-foot rights of way for all new construction, with a central landscaped median, flanked by a public utility right-of-way; elimination of grade crossings; and improved sight lines. He further proposed that the state aid road system be made more definitive so that the towns could not keep changing their designated roads. Macdonald further developed a four-tiered system of highway classification related to highway loads. Only those roads that needed to be designed for heavy loads were so built; other roads could be built more cheaply, yet provide adequate support for light trucks and passenger vehicles.

In 1926, at the behest of the American Association of State Highway Officials (AASHO), Connecticut elected to participate in a route numbering system for interstate routes that would facilitate interstate travel via the shortest routes on the best roads. Under this system Connecticut designated certain trunk roads as U.S. Routes 1, 5, 6, and 7. In 1935, Routes 44 and 202 were added.

DEPARTMENT ORGANIZATION

Several minor changes were made in the organization of the Department. The field

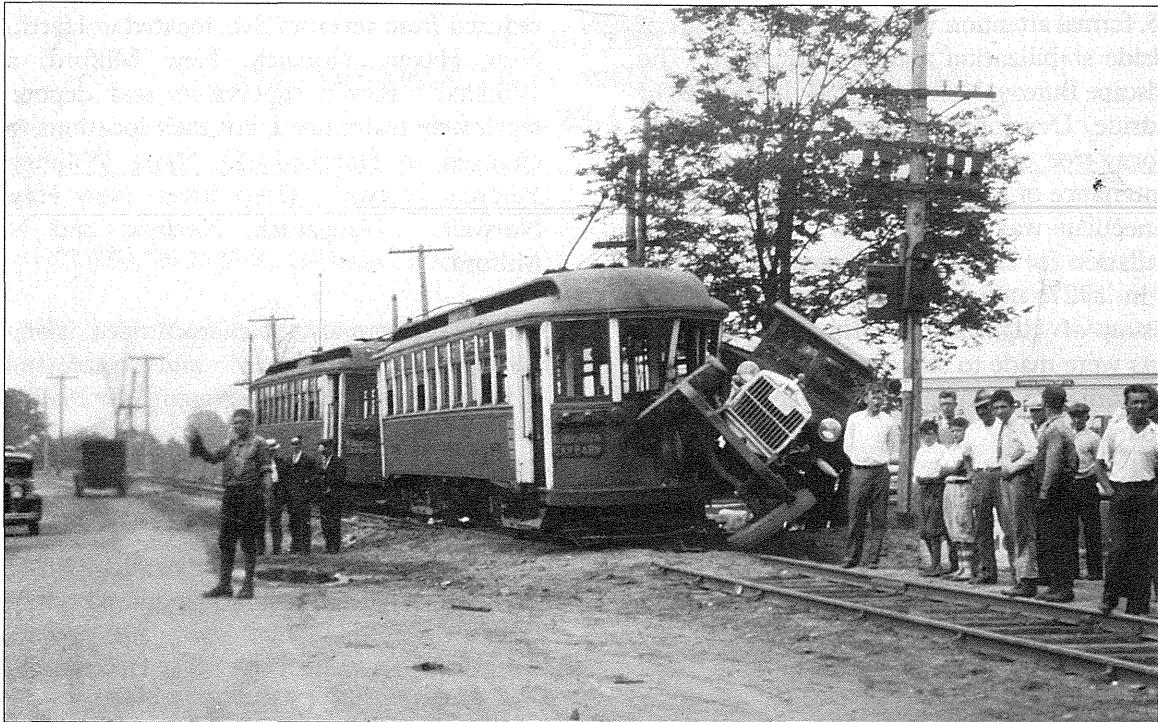
construction engineers and their divisions were reduced from seven to five, located in Hartford, New Haven, Norwich, New Milford, and Winsted. Eleven supervisors and depots of repair were maintained, but their locations were changed to Hartford (2), West Willington, Putnam, Norwich, Deep River, New Haven, Norwalk, Naugatuck, Norfolk, and New Milford.

This period can also be characterized as an era of further expansion and professional development of the Department. In 1925, the Materials Testing Laboratory was founded in Portland. Under the direction of chemist Frank Flood, the laboratory's staff of six performed physical testing of all the types of materials that go into making a highway, including concrete, gravel, cement, and metals.

DECLINE OF THE TROLLEY

The increasing dominance of the automobile in American life in the 1920s was the beginning of a long decline for the trolley. The trolley no longer offered the greatest individual mobility, especially since trolleys had to give way to long lines of automobiles now sharing the public roadways. Financial burdens were also building up because industry regulations would not allow an increase in the nickel trolley ride, which had nearly become an American institution.

For those who did not own an automobile, there were still plenty of chances to travel in a car instead of the trolley. Jitneys (jitney was slang for nickel), which were private automobiles with a driver for hire, the forerunners of the taxicab, flocked around trolley stations to convey passengers to their destinations. In Connecticut, taxi cab and livery services began being regulated by the Public Utilities Commission in 1929 and 1933, respectively. By the 1930s, the trolley industry was deeply troubled, followed by its final demise in the 1940s and early 1950s.



Trolleys had the advantage in accidents with automobiles, like this one in Wethersfield, but were ultimately forced to "give way" to them.



Once automobiles became widely used, the taxi industry sprouted, including this "taxi express" company along the Boston Post Road in 1924.

THE MERRITT PARKWAY IS BUILT

As early as 1919, the Department recognized that it could not keep up with the dramatic increases in traffic along the state's main trunk line, the Boston Post Road, also known as U.S. Route 1. As the primary link between the Port of New York and Connecticut's major industrial centers, the road was clogged with both slow-moving local motorists and long distance truck traffic, making for a dangerous mix. After several widening efforts proved to no avail, the Department began to seek alternatives to relieve congestion. In 1923, Commissioner Macdonald proposed three alternatives: further widening; a truck road running along the coast adjacent to the rail lines; or a new road located 20 miles inland.

There were major forces behind improving traffic in Fairfield County -- wealthy estate owners, businessmen and local politicians. They found their voice in the Fairfield County Planning Association and began to lobby for a "Parallel Post Road" that would remove high speed passenger traffic from Route 1. They advocated a slightly inland route that would pass through mostly undeveloped property and strongly advocated a parkway type of roadway. Further impetus for creating such a road also came from New York State's announcement of plans to build several parkways in adjacent Westchester County. By 1925, the proposal won the endorsement of Governor Wilbur Cross, and in 1927, legislation was passed providing for a road from Bridgeport to Greenwich. In 1931, an appropriation of \$1 million for its construction was approved.

In mapping out the road, Commissioner Macdonald and his planners adopted a 300-foot wide right-of-way in order to provide for possible expansion as well as proper separation from the nearby houses. The 150-foot wide roadway was built on the north side of the total right-of-way. This was to be a multi-lane road.

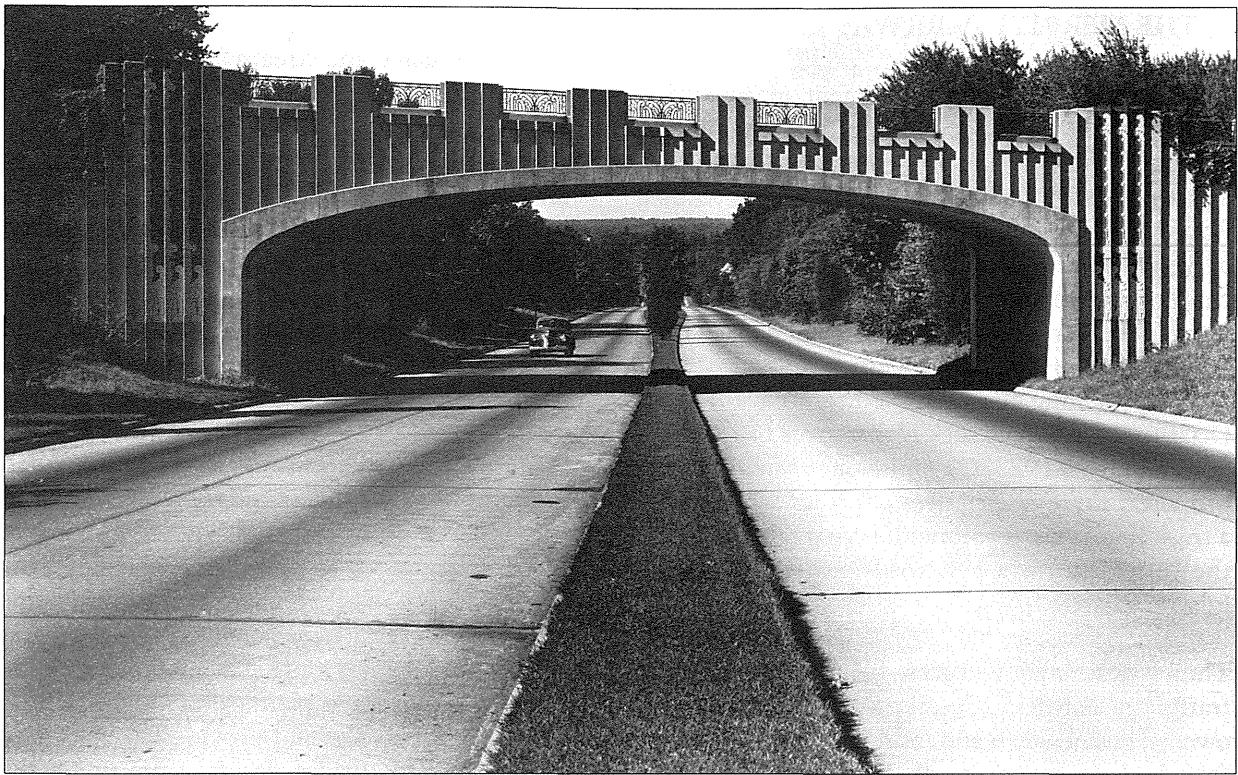
Since the road was meant to be a high-speed express connection through Fairfield county, there were to be no at-grade crossings or traffic signals, necessitating the use of 69 bridges for

underpasses or overpasses at roadway crossings, railroad crossings and stream fordings. Highway access was to be limited to a specified number of entrances and exits, a relatively novel concept for 1930. The road was to cross hilly terrain, and many cuts and fills were envisioned to even out the dramatic landscape of "back country" Fairfield County.

The Fairfield County Planning Association and Congressman Schuyler Merritt, after whom the road would be named, pushed for a road that would enhance the beauty of the county, ensuring the creation of a well-landscaped parkway that would follow the topography of the land. Landscape, bridges and highway were designed in concert to create a delightful driving experience. The Department's landscape architects, led by Thayer Chase, created a park-like setting 38 miles long. They emphasized the use of hardy native plants that required little maintenance and would provide fall color and spring flowers. Bridge designs were under the supervision of architect George Dunkelberger. He created 69 Art Deco style masterpieces that served as highly ornate theatrical arches framing and heightening the experience of driving through nature.

In 1931, the Merritt Highway Commission was formed to oversee the project and in April of that year the first parcel of land for the highway was purchased. In 1934, construction on the highway had begun and Westchester County announced plans to build a connector linking the Hutchinson River Parkway to the Merritt. The project was short of funds, so in 1935 the legislature granted Fairfield County authority to issue \$15 million in bonds to complete the Merritt. The first section of the parkway opened on June 29, 1938, providing a link from the New York State Line to Norwalk.

In 1939, the Highway Department was authorized to collect tolls on the Merritt in order to finance construction of the Wilbur Cross Parkway, then being planned to extend from the Merritt Parkway to Hartford. The first toll was collected on June 21, 1939.



The Merritt Parkway featured 69 showpiece bridges designed to frame the view. This is the North Avenue Bridge in Westport.



The entire Merritt Parkway from the Connecticut-New York border, shown here, to the Housatonic river was completed and formally opened in 1940.

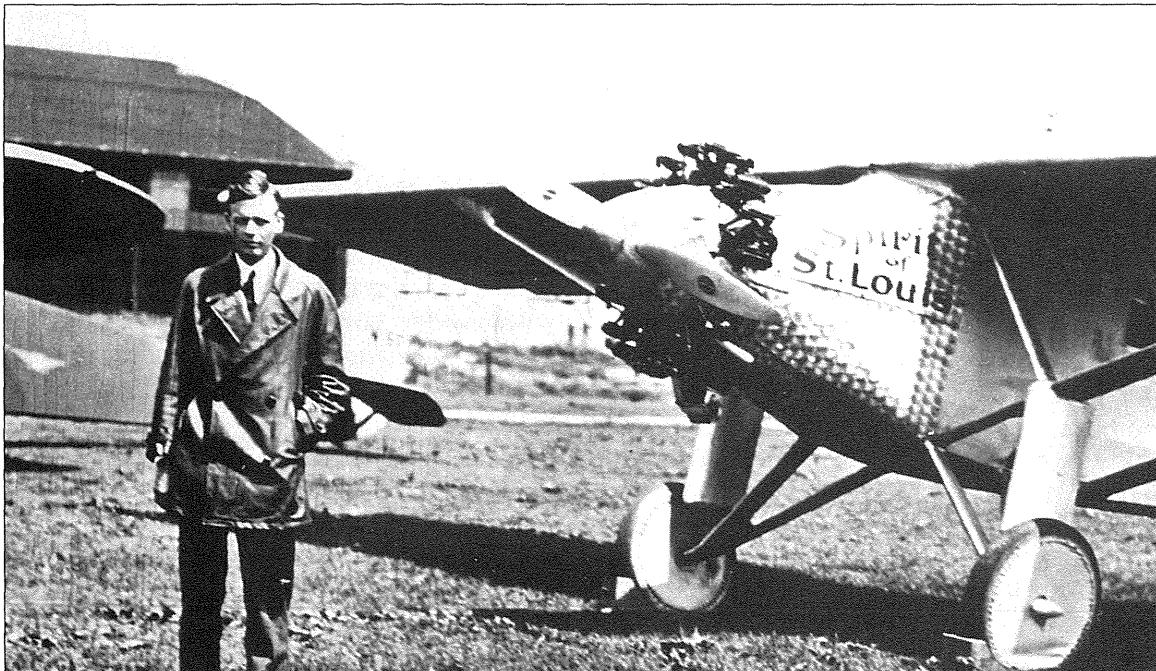
By 1940, the Parkway reached its terminus at the Housatonic River bridge and formally opened as Connecticut's first parkway on Labor Day, 1940. On completion, it was considered one of the most beautiful highways in America and stood as a model for future roadway construction. Today, the Merritt Parkway is a state scenic road and has gained a place on the National Register of Historic Places.

COMMISSION OF AVIATION AND DEPARTMENT OF AERONAUTICS ESTABLISHED

The years of the 1920s were years of many changes for the field of aviation. The federal government, years after Connecticut's precedent-setting aeronautical statute (1911), enacted its first aviation law with the passage of the Air Commerce Act of 1926. The act established the Federal Aeronautics Branch (later the Bureau of Air Commerce) in the Department of

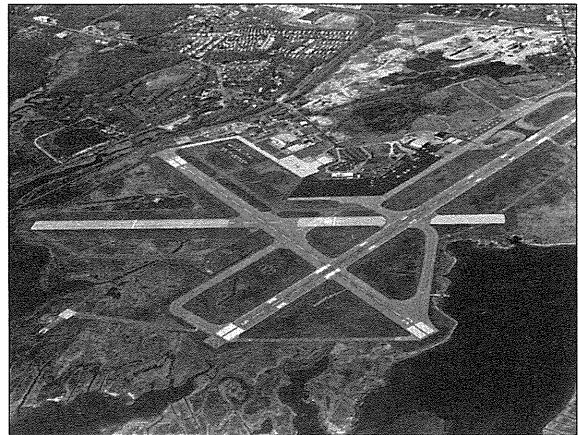
Commerce. This authority certified pilots and aircraft, developed air navigational facilities, promoted flying safety, and issued flight information. The growing interest in flying led Congress to pass the Civil Aeronautics Act of 1938 to establish an independent Civil Aeronautics Authority (CAA), which two years later, took control of the airways.

In Connecticut in the 1920s, the Department of Motor Vehicles (DMV) and the State Police (part of DMV at the time) shared enforcement responsibilities for Connecticut's aeronautical statute, which had previously been enforced by the Secretary of State. In 1927, the legislature created the Department of Aeronautics to implement the work of the Commission of Aviation, a new regulatory agency. The Commission of Aviation remained the regulatory agency in Connecticut until the formation of the Department of Transportation in 1969, when it became purely advisory, being dissolved around 1973.



On July 20, 1927, Charles Lindbergh landed the Spirit of St. Louis at the Hartford-Brainard Airport, his first stop on a 48-state tour after his solo flight across the Atlantic Ocean.

The Groton-New London Airport was established as the first state airport in 1929. Originally called Trumbull Airport after Governor Jonathan Trumbull, the airport was taken over by the U.S. Department of Navy during World War II. The Navy built the runways before the state resumed ownership in 1948.



The Groton-New London Airport, shown here as it looks today, was established as the first state airport in 1929.

THE GREAT DEPRESSION AND THE BEGINNING OF THE TOWN AID PROGRAM

In 1931, with the effect of the Great Depression being felt all over the State, the legislature extended its help and interest to all public roads by appropriating \$3 million for the construction and maintenance of local roads. The Town Aid Program, as it has become known, divided money equally among all 169 towns, with the goal that the towns would work to improve the hundreds of miles of dirt roads. The success of the program may be measured by the survey of 1940, which showed less than two percent of the state's rural homes on unimproved roads. In 1941, an appropriation of \$1 million per year was made in order to target the two percent (unimproved) roads.

That same year, following the recommendation of a consulting engineering firm, the entire department was reorganized. The Department was divided into five bureaus: Engineering and

Construction; Maintenance; Business Administration; Highway Boundaries and Rights of Way; and Roadside Development. Each bureau developed specialized departments for particular areas of expertise. Furthermore, the six division engineers' offices were reduced to four, located at Hartford, New Haven, New Milford and Norwich, while the eleven repair offices were renamed maintenance offices.

With the Great Depression in full force in Connecticut, the mid-1930s were characterized as an era of great road building and construction of other public works, since these were public projects that served as a means to employ thousands. The 1934 Federal Aid bill substantially assisted the state in its funding of construction projects. In 1937, the Work Progress Administration constructed the Windham Airport.

INCREASED EMPHASIS ON STANDARDS AND PLANNING

In 1935, the state sought to standardize all of its traffic control devices with the formation of the State Traffic Commission (STC), which was comprised of the Commissioner of the Highway Department, the Chief of the State Police, and the Director of the Motor Vehicle Department. The STC developed a uniform system of traffic control signals, devices, signs, and markings for use on all public roads.

In 1937, the Department received funding for statewide planning studies under the federal Hay Cartwright Act. Studies conducted included: survey and recording of all public rural roads; location study for a proposed Groton-New London Bridge; the economic justification study for the West Rock Tunnel, a 1,200-foot long tunnel (an engineering feature that is rare in New England) later constructed on the Wilbur Cross Parkway in Woodbridge and New Haven, and studies for new highways in the Naugatuck Valley.

In 1938, Commissioner Macdonald was replaced by William J. Cox, who served until

1947. Born in Portland, Oregon in 1896, Cox graduated from Washington and Lee University in 1918, followed by graduate studies at L'Université de Monpelier in France and at Yale University, where he was a professor of engineering until his appointment as Commissioner. His term was characterized by increasing emphasis on pre-planning and planning, as well as a more refined approach to the science of highway technology.

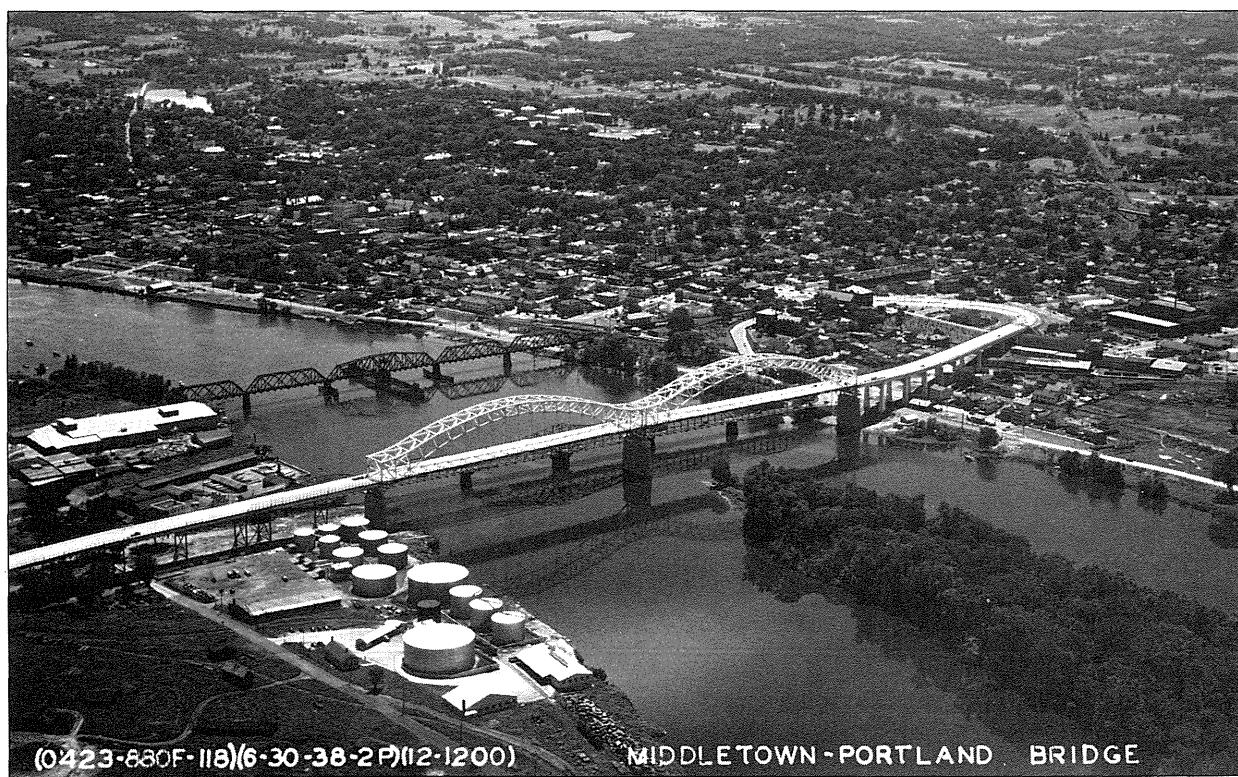
One of the major studies undertaken during his tenure was the study of traffic problems on the Boston Post Road in lower Fairfield County. Location and design studies were initiated for what was then known as the Parallel Road (Connecticut Turnpike, I-95), first between Greenwich and Stratford, then all the way to Danielson.

Work continued on upgrading the state's bridges, especially over the Connecticut River. The Middletown-Portland highway bridge, named the Charles J. Arrigoni Bridge for the state senator who promoted the project, was

completed and opened on August 6, 1938, replacing the former drawbridge. When finished, the 3,420 foot-long bridge was the longest in New England and had cost \$3.5 million dollars to build. Major bridges were also completed at Hartford and New London.

THE GREAT HURRICANE OF 1938

In Connecticut, the year 1938 is associated with one of the greatest natural disasters to ever befall the state in historic times -- the Great Hurricane. Between September 17 and September 21, 1938, over 12 inches of rain, accompanied by high winds and tides, hit the state, causing massive floods. By the time it was over, 50 bridges had been destroyed and an estimated 50,000 trees had fallen across roads. During the massive efforts to get the roadways cleaned up and back into use, one Department employee was killed and 107 employees injured. It was months before the state highway system could get back to normal.



The Charles J. Arrigoni Bridge opened on August 6, 1938, replacing the former drawbridge.

CHAPTER 5

WORLD WAR II

1941-1945

STRATEGIC HIGHWAYS

National war preparations for World War II in the early 1940s directly affected highway planning and construction in Connecticut. The U.S. War Department, through the Public Roads Administration, designated certain thoroughfares as "strategic highways," roads necessary to ensure efficient movement of war materiel. In Connecticut, the strategic highways included U.S. Route 1 from Greenwich to (Connecticut) Route 84 in Groton (now Route 184) to the Rhode Island state line; U.S. Routes 6, 6A and Route 15 from Danbury to Union; U.S. Route 5 from New Haven to Enfield; U.S. Route 7 from Norwalk to North Canaan; Connecticut Route 14 and U.S. Route 6 from Woodbury to Killingly; and Connecticut Routes 32 and 12 from New London to Thompson.

The newly designated strategic highways, according to the War Department, had to meet certain standards of widths and clear heights on existing bridges, for foundations, and for minimum widths of pavement and shoulders on new road construction. A state inventory of conditions on the strategic highways indicated that more than 500 miles and approximately 12 bridges needed alteration of one kind or another, a finding which diverted funds from state identified projects to the strategic routes.

In 1942, traffic authorities in Connecticut, New York, New Jersey and the Metropolitan Defense Transport Committee of the City of New York designated a series of primary and secondary highways in each state as "Civil Routes." These highways would provide alternate routes for civilian traffic between metropolitan New York and outlying areas when the Boston Post Road or Merritt Parkway were needed by the

government or defense agencies. Connecticut's Highway Department installed special signs marking the routes and distributed maps to the general public.

WARTIME RESTRICTIONS

The United States War Department and the War Production Board, anticipating shortages, established priority and preference ratings for materials considered essential to the war effort. Many of them, particularly steel and asphalt, were integral to road construction. To handle the priority applications for both state and federal road construction projects, the Highway Department established a new section just to handle processing. Between September 1, 1941 and September 1, 1942, approximately 370 priority applications were made by the Department to obtain materials, machinery, and repair parts.

Material shortages, failure to win a priority rating, the national policy of discouraging projects not directly beneficial to the war, and labor shortages, all contributed to construction and maintenance delays on Connecticut highways and bridges. The Wilbur Cross Parkway, one of the Department's major projects, had to be suspended because of lack of labor and equipment to complete the necessary grading. Asphalt for road repair and maintenance was restricted for war-time use.

Construction of the Charter Oak Bridge between Hartford and East Hartford suffered delays as contractors waited for preference ratings for materials. A major setback occurred on December 4, 1941, when a portion of the westerly river span failed and fell into the Connecticut River, killing 16 of the contractor's

employees. However, with persistence, the bridge finally opened on September 5, 1942. The Charter Oak Bridge was the longest span continuous plate girder bridge in the country. Riverfront Boulevard, the Park River Interchange, and the Park River Highway, part of the overall project plan, were not completed due to restrictions placed by the War Production Board.

In November, 1942, the War Production Board ordered suspension of work on the Broad Street traffic interchange in New London. The project was designed to improve the western approach to the Groton-New London Bridge. The necessary steel was on site, but permission for its erection was denied. The Board also withdrew preference ratings, thereby suspending work on three projects in Groton which were part of the eastern approach to the new bridge.

Construction of the Groton-New London Bridge itself was plagued by war-related problems. Before construction began, the process of securing rights of way were complicated by the rapid construction of emergency housing units in the proposed right-of-way. The housing was needed to meet a local shortage in this highly populous defense-industry area. In June, 1942, the project was seriously threatened when the War Production Board canceled the delivery of over 1,000 tons of steel for the bridge deck. The strategic position of the bridge for the movement of defense plant traffic helped save the project, along with the pleas of the U.S. Navy, the Bureau of Docks and Yards, the Public Roads Administration, and the Army-Navy Munitions Boards. The final obstacle to completion of the bridge was labor. In the winter of 1942-43, employees of the Highway Department's bridge maintenance section were recruited to supplement the contractor's staff to complete the bridge deck and install navigation lights. Despite the delays, the bridge opened to traffic on February 27, 1943.

A further blow to highway construction in Connecticut during the war years came in April, 1944, when Executive Order L-41-E limited

construction costs to \$10,000 or less and restricted the use of critical materials until September 7, 1945.

CREATION OF A MILITARY AIRFIELD

In January, 1941, as part of the war effort, Governor Hurley proposed to the General Assembly that the state purchase 2,000 acres of land in Windsor Locks to facilitate construction of a military airfield. The federal government entered into a lease to construct the airfield and support facilities, and the airport opened in the summer of 1941. At the conclusion of the war, the airfield was opened to public use. Commercial airline services, which had been initiated at what was then known as the Hartford Airport (now Brainard Airport) were transferred there. In October, 1948, the airport, today known as Bradley International Airport, was officially returned to the state by way of a quit claim deed.



In 1941, the state purchased 2,000 acres in Windsor Locks to construct a military airfield, shown here as today's Bradley International Airport.

FAILING RAILROADS

In October, 1943, the largest railroad in the state, the New Haven Railroad, filed for bankruptcy. Two months later, the federal government again took control of the country's railroads for national defense, control which lasted until January, 1947. As a result of the

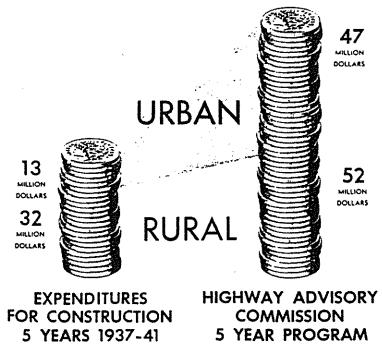
flurry of increased railroad activity brought about by war-time, the New Haven Railroad emerged from bankruptcy. During the war years, rail rates had increased by 28 percent and then again by 32 percent. Unfortunately, these boosts in revenues were not sufficient to sustain the New Haven Railroad for very long.

FOCUS ON PLANNING

During the early years of the war, the Bureau of Highway Planning Studies was established under Commissioner Cox to carry out research and statistical studies to assist in developing roadway construction and reconstruction programs. The Highway Department could not expend its energies on construction and maintenance as it had in years past, but the war years enabled its engineers to develop a wealth of plans waiting for implementation after the war. Plans were developed that could be converted into contracts on short notice. To further expedite post-war projects, the Department also actively acquired rights-of-way in the areas of proposed construction. In anticipation of V-J Day, the Department had ready to advertise plans and specifications for over \$10 million worth of improvements on the state highway system.

Planning for the post-war years was also the focus of the Highway Advisory Commission appointed by Governor Raymond E. Baldwin in 1943. The commission was charged with reviewing the long range program of the Highway Department and establishing a five-year program of improvements. Highway Commissioner Cox presented to the commission, for their approval, a \$79 million program including nearly 100 projects, covering everything from a simple drainage structure to a comprehensive array of work on the Wilbur Cross Highway and the Wilbur Cross Parkway, and extensive work on various parts of the trunk line system. Additional long-term projects, estimated to cost \$150 million, were also identified.

URBAN NEEDS Expand HIGHWAY PROGRAM



The rate of state highway construction must be expanded greatly if we are to meet the most urgent of the accumulated improvement needs. In large part the necessary expansion must be directed at the urban traffic problem—at breaking the bottlenecks in our cities through the provision of expressways which can move large volumes of traffic with safety and dispatch.

In the years following World War II, the answer to traffic congestion in urban areas was more expressways, as noted by the Highway Advisory Commission's five year program of recommended expenditures, circa 1943.

In addition to state plans for highway improvements, the Department also had federal regulations to consider. In December, 1944, Congress passed the Federal Aid Highway Act, stipulating four federal road networks: primary or trunk; farm-market; urban; and interstate. State and federal governments were to share construction expenses for "secondary roads," both farm-market and urban state or local roads that connected primary roads. The act also designated 40,000 miles of highway as a National System of Interstate Highways. Within Connecticut, 267 miles were identified as Interstate Highway miles. The location of the proposed interstates included a route along the shore from Greenwich to the Rhode Island state line in North Stonington, from Danbury through Waterbury and Hartford to the Massachusetts border at Union, and a route from New Haven northerly through Meriden and Hartford to the Massachusetts border at Enfield.

The act stipulated that state and federal governments would share fiscal responsibilities. However, day-to-day operations remained under the control of state highway agencies. State highway departments were also charged with selecting and locating highways to be included in the secondary road program and in the

Interstate System. By 1946, Connecticut's Highway Department had selected the roads within the secondary road systems, based on the mileage of rural public roads carrying over 50 vehicles per day in each county. The Department selected 1,085 miles of highway for federal aid.



In 1941, the Highway Department started the monthly newsletter called "Cuts and Fills", which not only kept employees abreast of developments within the Department, but also contained news of employees at the front. This later issue from April of 1959 shows the Department engaged in the annual clean up of the state's highways.

THE DEPARTMENT'S FIFTIETH ANNIVERSARY

The Highway Department celebrated its fiftieth anniversary on July 3, 1945. Commissioner William J. Cox received a commemorative

plaque from Governor Raymond E. Baldwin, and 116 retired and working members of the Department who had served the state for 25 years or more were honored. The Department was poised for the next 50 years.



This commemorative plaque recognized 50 years of the Highway Department.

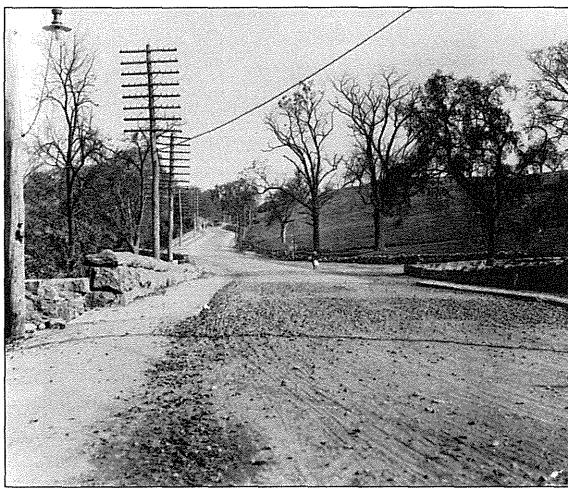
CHAPTER 6

EXPRESSWAY DEVELOPMENT

1946-1955

WAR RESTRICTIONS LIFTED

The end of gasoline rationing, the easing of travel restrictions, the return of thousands of soldiers, and a switch from war production to consumer production marked the end of World War II. These events resulted in a dramatic increase in urban populations and in car ownership. In response to the increase in traffic, the Highway Department conducted extensive traffic counts and traffic studies to provide a basis for future planning. Urban areas showed the most congestion, and it was urban areas that would receive most of the Department's attention. In addition to new construction needs, a 1946-47 study of road conditions indicated the effects of significant deferred maintenance, particularly shoulders, guard rails, and drainage. A 1947 inventory of roads throughout the state discovered that 2,700 miles of local roads were still dirt.



Rural dirt road with cars in distance.

Although war restrictions were lifted, the Department, under the new direction of Dr. G.

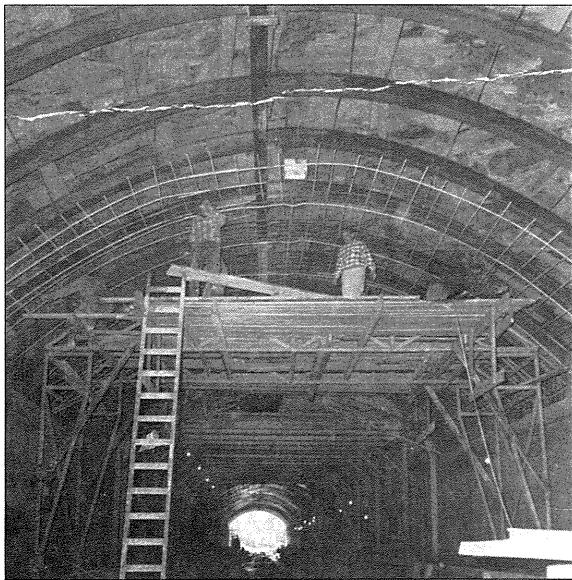
Albert Hill, still found itself working within limitations. Rising costs, new construction standards, material shortages, and President Truman's emphasis on housing construction over road construction meant many of the state's plans had to remain on hold a while longer. The lack of construction funds was eased in 1947 by Public Act 148, which raised the gasoline tax from three to four cents per gallon. The gasoline tax was the primary source of highway construction funds.

Despite continued shortages, construction did resume. The emphasis was placed on relieving congestion in urban areas by building multi-lane controlled access expressways. The concept of "streamlining," seen in designs for items from automobiles to toasters, appeared in the new science of traffic flow -- keeping the open road open.

THE CONNECTICUT TURNPIKE AND OTHER PROJECTS

The most important post-war project in Connecticut was construction of the Connecticut Turnpike (originally called the Greenwich-Killingly Expressway, until changed by the legislature in 1955). The 129-mile route ran along the south shore from Greenwich to East Lyme, then northeasterly to Killingly (the route of today's I-95 and I-395.) Planning began in 1954 and the first bond was issued that same year. Construction began on January 17, 1955 in the Westbrook-Old Saybrook area, in Norwalk, and in West Haven.

Twenty-six outside engineering firms from across the country assisted the Highway Department's own engineering designers on the design of the Connecticut Turnpike. The



After years of planning and evaluation, the 1,200-foot long West Rock Tunnel in Woodbridge and New Haven was constructed during the 1940s. The tunnel was a key portion of the Wilbur Cross Parkway, which opened to traffic in 1949. Above right: Scaffolding at tunnel face. Above left: Work inside tunnel. Bottom photo: Partially dug tunnels.

project was so large, the Department created a special unit in the engineering division to coordinate work on the Turnpike. Securing rights-of-way and designing the highway presented the largest and most pressing problems. The acquisition of rights-of-way proceeded on a piece-by-piece basis, dictating the pattern of construction. Few substantial lengths of the road could be built at one time, forcing contractors to build a section, move to a new area, build another section, and so on.

* * *

Construction of the war-delayed Wilbur Cross Parkway, including West Rock Tunnel (a major engineering feat in itself), was finally completed and the new route opened in November 1949. The Wilbur Cross Parkway was not planned to be as aesthetically pleasing as the Merritt. It was not a designed landscape, its bridges were far less ornate, and the roadway was located in the approximately center of the 300 foot right-of-way, rather than on one side. The Merritt Parkway, the Wilbur Cross Parkway, and the Wilbur Cross Highway, completed in late 1954, formed Connecticut's first dual lane road across the state.

Bridges received a great deal of attention after the war, particularly since steel and other construction materials were now more readily available. The Raymond E. Baldwin Bridge, spanning the Connecticut River between Old Saybrook and Old Lyme, opened to traffic December 4, 1948, less than two years after construction started, replacing the 1911 drawbridge. A new bridge over the Housatonic River, the Commodore Isaac Hull Bridge, opened to traffic December 17, 1951. Plans were prepared for the Hubbard Street Bridge on the Glastonbury Expressway, the first pre-stressed concrete bridge built in Connecticut.

In 1955, Governor Ribicoff established the Greater Hartford Bridge Authority, which was charged with developing a multi-bridge plan for the Hartford region. The plan included construction of two new toll bridges (Bissell and

Putnam), completion of the Founders Bridge, the continued use of the Charter Oak Bridge as a toll facility, and the implementation of tolls on the Bulkeley Bridge. Duties of the Authority were transferred to the Commissioner of Highways in 1959.

For safety and "streamlining," U.S. Route 5 and Connecticut Route 15, from Meriden to Wethersfield, were improved by closing numerous cross-overs and building acceleration and deceleration lanes at the rest of the crossings. Plans were completed for the relocation of U.S. Route 1 between the New York state line and West Haven, improvements to Route 1 in New London and for the Hartford-Springfield Expressway (today's I-91).

HIGHWAY RESEARCH CONDUCTED

The 1950s was a particularly active period of highway-related research. One study by the Connecticut Experiment Station looked at the deterioration rate of the guide rail posts selected for use on the state highway system, for various wood species and preservative treatments. In 1952-1953, a maintenance production study was conducted by the Department in cooperation with the Bureau of Public Roads, the first of its kind in the country. The study surveyed a variety of maintenance practices and concluded that a complete condition survey of roadway surfaces and drainage was essential to determine maintenance progress. The study also discussed types of improvements needed to reduce ordinary maintenance of roadways. Results were reported in a publication of the Highway Research Board. The Department also sponsored a series of research projects undertaken at the University of Connecticut.

ORGANIZATIONAL CHANGE

In anticipation of the new demands for roadway construction and repair after the war, the Department reorganized in 1949. The eight operating bureaus, seven at Hartford and one at Portland, were reduced to four by the transfer of



Bradley Airport in Windsor Locks in 1952, four years after the airfield was returned to the state by the federal government and two years after General Dwight D. Eisenhower, then president of Columbia University, broke ground for a new passenger terminal. (Photo credit: Connecticut Historical Society)

all field functions to a newly established set of four districts with their headquarters at Hartford, Norwich, New Haven, and New Milford. The field functions included maintenance operations, roadsides and bridges, drainage work, surveys, construction supervision, traffic engineering, and the investigation of complaints, as well as engineering functions related to town-aid road construction.

Each district was headed by a district engineer with four principal assistants: office manager, engineer of surveys and plans, engineer of construction, and maintenance engineer. In the Hartford office, additional technical staff were charged with developing changes and improvements in methods and procedures, and

with seeing that field operations were carried out according to standards.

Other changes within the Department included the transfer of the duties of three separate bridge commissions -- Hartford, New London, and Old Saybrook -- to the Highway Commissioner. The transfer included administration of the toll facilities on the toll bridges, and the addition of about 100 employees to the Department roster. Maintenance employees had their work week decreased from 45 hours to 42.5 hours with pay adjustments so they did not experience a decrease in take-home pay.

In the aftermath of the war, the Department actively participated in civilian defense programs. Employees received specific

assignments, had their photographs and finger-prints taken for identification, and took a loyalty oath.

Another change in the Department came on March 1, 1955, when Newman E. Argraves was appointed the new Commissioner of the Highway Department. During his administration, attention was focused on the development of surveys and plans for the National Interstate and Defense Highway System and other parts of the highway system constructed under federal subsidies (see Chapter 7). This heavy engineering design load

employed many consultant engineers directed by the Department's design engineers.

U.S. NAVY LEASES STATE PIER

In 1951, the U.S. Navy entered into a 90-year lease with the Connecticut Terminal Company, the operator of the State Pier since 1923, to reserve the northeast side of the pier for Navy vessels. The lease essentially ended in 1991, many years ahead of its scheduled expiration, when U.S. Navy Submarine Squadron 10 was decommissioned.

CHAPTER 7

THE INTERSTATE SYSTEM

1956-1968

INTERSTATE HIGHWAYS GIVEN NEW LIFE BY FEDERAL AID HIGHWAY ACTS

The Federal Aid Highway Act of 1944 had been the first of a series of federal legislative initiatives to improve highway systems across the country, primarily for purposes of expediting the movement of defense resources. The Interstate Highway System had, therefore, already been born, but federal funds for its completion were lacking. The Federal Aid Highway Act of 1952 was the first to authorize federal funds specifically for interstate construction. The federal share of interstate construction increased from 50 to 60 percent with the passage of the Federal Aid Highway Act of 1954.

Two years later, at the height of the Cold War, President Dwight D. Eisenhower recognized the importance of the national highway system for defense by promoting the passage of the Federal Aid Highway Act of 1956. Under this act, the federal government committed itself to providing 90 percent of the funds necessary to build a National System of Interstate and Defense Highways, which were considered to be the routes of highest importance to the nation. These were to be multi-lane limited access routes connecting principal metropolitan areas, cities and industrial centers; major routes into, through, and around urban areas; and major routes connecting with highways of continental importance in Canada and Mexico. Funds were authorized through 1969 in recognition of the long-term nature of the project and the total mileage was increased from 40,000 to 41,000.

Under the 1956 act, roads were classified into four systems for purposes of identifying routes

eligible for federal funding. The Interstate Highway System included the new system of major routes described above. The Federal Aid Primary System consisted of main roads important to interstate, statewide, and regional travel, including rural arterial routes and their extensions into or through urban areas. Rural major collector routes comprised the Federal Aid Secondary System, while the Federal Aid Urban System encompassed arterial and collector routes not including extension of Federal Aid Primary System routes.

In addition to extending the interstate system and setting a rate of funding authorization, the Federal Aid Highway Act of 1956 also created the Highway Trust Fund, a dedicated fund for highway construction. Tax sources for the fund included federal taxes of 3 cents per gallon on motor fuel; 8 cents per pound on tire rubber; 9 cents per pound on tube rubber; and 10 percent of manufacturers' sale price on new trucks, buses and trailers. By law, all funds raised through these user taxes had to be used exclusively for highway construction.

Arguments over the source of funding and the types of roads to be funded had delayed passage of a comprehensive federal highway bill in the past. Truckers wanted city routes built and improved first, farmers wanted roads built from rural to urban areas so they could get their produce to market, and suburban dwellers wanted roads that made their commute to work in the city easier. Some drivers wanted taxes based on the weight of the vehicle, while others wanted the states to bear the cost of funding. These varying special interests finally reached consensus on the proposed federal gasoline tax.

CONSTRUCTION OF INTERSTATE SYSTEM BEGINS

The Department immediately started designing roadways, procuring rights of way and holding public hearings for the interstate system. Connecticut's mileage allocation for construction of the interstate system under the 1944 act included the routes from Greenwich to Stonington, Danbury to Union, and New Haven to Enfield. This allocation was expanded under the 1956 act to encompass two circumferential routes around Hartford. Construction of the interstate system began in earnest in 1958. The primary focus was on I-84 from Danbury to Hartford and on the Hartford-Springfield Expressway (I-91).

Despite the emphasis on the new interstate system, other construction projects already underway continued. The Middletown Expressway, the substructure for the Founders Bridge between Hartford and East Hartford, and the Windsor section of the Hartford-Springfield Expressway were completed in 1956. The Founders Bridge opened to traffic in 1957. The entire length of the Hartford-Springfield Expressway, the first segment of interstate completed in Connecticut, opened in 1960. In 1957, the Hammanasset Connector was completed, as was the Bissell Bridge between Windsor and South Windsor.

Work on the Connecticut Turnpike proceeded, with 45 individual projects in 1956 and 78 contracts in 1957. The turnpike officially opened to general traffic on January 2, 1958, although several sections were incomplete, including the Byram Bridge connecting Connecticut with New York. The bridge and toll facilities, as well as gasoline station/restaurant service areas, were completed and in full operation by 1959.

Repair and reconstruction activities were prompted by natural forces. On August 18 and 19, 1955, Hurricane Diane dumped torrential rains on the state. Overflowing rivers in the

western part of the state and in Hartford destroyed low lying sections of several towns. A second flood struck the state only two months later. The total damage statewide was over \$220 million. In November, the General Assembly voted \$15.5 million for repairs to state highways and bridges and an additional \$14.5 million for local roads and bridges. Repair and reconstruction of local and state roads and bridges continued through 1957.

8 CUTS AND FILLS

THE CONNECTICUT TURNPIKE (A TOAST)

Here's to the men — the dreamers, the doers, the fated.
Here's to the women who patiently wondered and waited.
Here's to the Turnpike — the cherished, the glorious, the hated!

Here's to the obvious need — traffic standing at stop lights,
And draw bridges open, exhaust fumes, and glare on wet nights,
With crashes, congestion, impatience, fatalities, frights.

Here's to the grandiose plan — the basic conception
Developed by studies of origin, flow, destination
To loosen and banish the fetters of stifling congestion.

Here's to the cities and towns with their prides and tradition.
Factory, palace, wee cottage with favored position.
Here's to the sponsors and here's to the fierce opposition.

Here's to designers with core bridging, surveys, and data.
The smoke from their briars forming bridges and cloverleafs greater
Than ever before. So here's to the thoughtful creators.

Here's to contractors, so eager, resourceful, and bold,
Each arraying materials, manpower, machinery, gold
Against obstacles, shortages, deadlines and problems untold.

Here's to the Turnpike tornado — uprooting and racing
Utilities, businesses, dwellings with hunger amazing.
Arched high above railroads and rivers where small craft are lazng.

Here's to the workers -- the diligent, carefree, the grafters,
Inbued with high hopes, groundless fears, hidden cares, sudden laughter.
Overtime, pay day, and play, then the rough morning after.

Here's to amazing machines — massive shovels that bellow;
And pile hammers singing (each tuned like the string of a cello);
Ingenious, tremendous; bedecked in raw red, brilliant blue, screaming yellow.

Here's to each newsworthy coverage — picture and story;
The homeless, the pompous, the workman, the showman, the hoary;
Transient celebrities, each with his measure of glory.

Here's to the field engineer buried deep in the middle
Of estimates, drawings, reports. Calmly solving the riddle
Of quality, layouts, production with no time to twiddle.

Here's to the noise and the dust, to confusion and clamor.
Thousands of vehicles advancing simultaneously gilded with glamour.
Monsters enchanting to terrorize, anger, enmity.

Here's to the kindly, benevolent seasons — two years
When the showers fell in light and the daylight was sunny — two years
Of superb "Arguably Weather" confounded the grape hanging seers.

Here's to the others, with hopes and desires fondly nourished —
To all they held dear, their good friends, and the loved ones they cherished;
Here's to our brothers, now silent, who suddenly perished.

Here's to that fabulous highway all polished and glowing;
And millions of vehicles quietly, endlessly flowing;
Conveniently serving communities vibrant and growing.

Here's to the men, to the dreamers, the doers, the fated.
Here's to the women who patiently wondered and waited.
Here's to the Turnpike — its glory live on unabated!

Louise K. Amidon - 1958

This "toast" to the new Connecticut Turnpike appeared in the January 1959 issue of "Cuts and Fills".

In July of 1959, Howard S. Ives was appointed the new Commissioner of the Department. He promptly took steps to complete the federally aided projects, including the National Interstate and Defense Highway System, and emphasized research and development. To support this responsibility, the Commissioner promoted the installation of the Department's first electronic

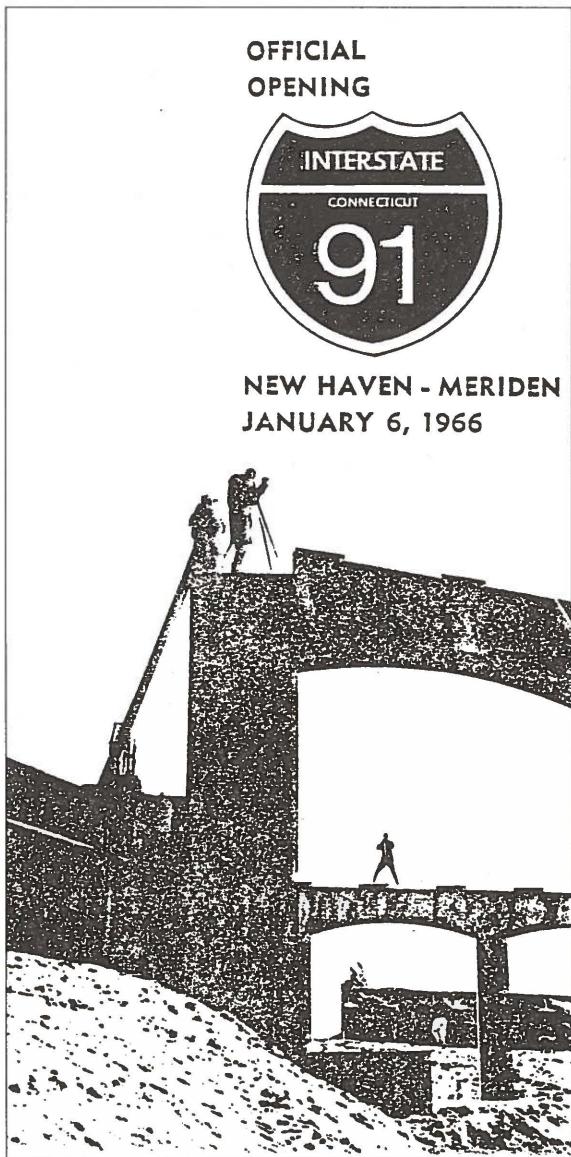


Flood damage from the floods of August and October 1955 prompted the General Assembly to authorize \$30 million for repairs to state and local roads and bridges. The October flooding of the Connecticut River (above) left considerable debris on the Windsor Locks Bridge (inset).

data processing equipment for administration, planning and engineering purposes. By the early 1960s, computers were being used in engineering applications. A data processing center had been established by 1964.

The Department underwent another administrative change during this period. The State Traffic Commission, originally established in 1935 and which, among other responsibilities, established speed limits and the location of traffic signals, was transferred from the Department of Motor Vehicles to the Highway Department in 1960.

The Bradley Field Connector between the airport and I-91 opened in July 1961. In 1963 the state conducted its most extensive road building program -- 39 miles of new road were opened and 75 more miles were started. Major projects included Routes 2, 8, 12, 44 and 72. In 1964, the Department started construction of the "East Hartford Complex Interchange," a maze of ramps, roadways, and structures connecting all the north-south and east-west routes in East Hartford with the bridges over the Connecticut River to Hartford. Many of these projects were the result of Public Act 605 in 1961 which appropriated \$150 million in supplemental highway funds.



One of the many interstate segments constructed during the 1950s and 1960s, I-91 between New Haven and Meriden opened in 1961.

PUBLIC ACT 603: THE STATE HIGHWAY SYSTEM

The county form of government was abolished by the General Assembly in 1959. This meant that there was one less level of government for the Highway Department to deal with in developing and monitoring its programs. In response, legislation passed in 1961 (P.A. 603) called for the functional reclassification of all public roads in Connecticut with the aim of



establishing a state highway system. Some roads that had originally been under county control were transferred to the state and other roads became the responsibility of the towns and cities.

The State Highway System consisted of three categories of highway: State Primary Highways, which served the predominant flow of traffic between principal towns in Connecticut and similar towns in surrounding states; State Secondary Highways, connecting and feeder roads supplementing the primary system by serving traffic between smaller towns; and State Special Service Highways, providing access from primary and secondary state highways to federal and state facilities. The Local Road System included all roads not included in the State Highway System, to be developed and maintained by town governments. These consisted of about 80 percent of the public roads in the state.

TRANSPORTATION AS A FORCE FOR SOCIAL AND ECONOMIC CHANGE

The impetus for new highway construction was more than just the need for civilian and defense mobility. Many highway plans were also seen as an integral part of urban planning. In the 1950s, the flight to the suburbs had left city centers run down. Some envisioned highways not only bringing residents and shoppers back to the city, but also acting as buffers between residential and industrial areas. An example of a project with such goals was undertaken in New Haven in 1954. The Oak Street Connector, a four-lane highway connecting the Connecticut Turnpike to downtown, was built. Nine hundred families were relocated and slums in the route of the proposed connector were razed. Other urban renewal and economic development projects developed around the connector.

Highways could also be a source of social and economic change in rural areas. That was the reasoning behind the construction of the Connecticut Turnpike from Groton to Killingly, in the eastern portion of the state. The avowed

purpose of the four-lane highway in New London and Windham Counties was to stimulate the economy in a relatively depressed region. Once dependent on the textile industry, the eastern portion of Connecticut experienced high unemployment as companies moved south or overseas. The new highway, according to planners, would encourage new businesses and the expansion of existing ones, as well as stimulate the tourist trade. A study conducted by the University of Connecticut for the Highway Department, entitled "*The Connecticut Turnpike--A Ribbon of Hope*," found a substantial increase in manufacturing employment, in population, in real estate values, and in the number of hotels in areas close to the highway. The conclusion: highways could be used to stimulate economic growth instead of simply following it.

It was soon recognized that people speeding by on highways did not necessarily stop in the city. Instead, commuters used them to reach their suburban homes, shopping malls along expressways in the suburbs attracted additional business from the city center, and the overhead ramps and elevated highways often left wastelands beneath them. During this period, the Highway Department found a growing resistance to highway construction, an attitude not previously encountered.

GROWING COMMITMENT TO MASS TRANSPORTATION: TRANSIT DISTRICTS

The concept of transportation as a force for social and economic change extended to mass transportation as well. With the decline of urban centers and the nation-wide call for urban renewal as a backdrop, the Connecticut General Assembly passed Public Act 507 in 1961, "Concerning the Establishment of Transit Districts by Municipalities". This was the first in a series of acts enabling municipalities, individually or cooperatively, to form transit districts to supervise private transit companies within their jurisdictions. The intent of the act was to encourage the improvement of

transportation options for people within the state, particularly in urban areas.

Transit districts were empowered to establish fares, routes and service standards, establish new transit services, acquire existing transit service property, and issue bonds for acquisition or construction of transit facilities. Transit services, as defined by the act, included bus, rail and other land transportation systems. The act thus provided a mechanism by which local bus service could be preserved and improved at the local level. The preservation of these transit systems was deemed a "*public necessity*" for the benefit of individual citizens and state commerce alike.

In 1965, the state's commitment to preserving and improving bus services was reaffirmed when the Connecticut Transportation Authority (CTA), which was created in 1963 to support rail passenger services, was authorized to operate or contract for bus services. This step was taken to reverse the decline in bus services which had occurred in the wake of ever-increasing automobile use and growing suburbanization.

CONNECTICUT ENTERS THE COMMUTER RAIL BUSINESS

In 1961, the New Haven Railroad, which had dominated commuter and freight rail service in Connecticut since the late 1800s, filed for bankruptcy a second and final time, almost 20 years after filing for bankruptcy in the 1940s. This decline was caused by the construction of the Interstate Highway System, the economic prosperity after the war which enabled nearly every family to own a car, and the increased use of trucks and buses for transportation.

The New Haven Line operated by the railroad had been in operation since the mid-nineteenth century, providing commuter rail service from New Haven to New York City. Commuter rail service was (and still is) considered essential to the economies of both Connecticut and New York. With a commitment to maintaining the state's transit opportunities already established

by the Transit District Act, Connecticut took a series of actions to save the failing commuter rail. First, in 1963, the Connecticut General Assembly created the Connecticut Transportation Authority (CTA) to study rail passenger services and devise preservation strategies for the New Haven Line. Over the next four years, the CTA's powers were broadened to include buying and selling rail properties and financing rail commuter service. During this time, the General Assembly created the Public Service Tax Fund to support commuter rail service (as well as other forms of public transportation).

By 1965, the state had reached an agreement with the trustees of the New Haven Railroad, the Metropolitan Transportation Authority (MTA) of New York and the U.S. Department of

Housing and Urban Development (HUD) to subsidize the line during an eighteen-month federal-state demonstration project. Until December 31, 1966, the commuter rail service was publicly operated, funded two-thirds by HUD and one-sixth each by Connecticut and New York. Connecticut and New York continued the public subsidy of the New Haven Line for two more years, through December 1968.

The objectives of the demonstration program were three-fold: 1) to provide for continuation of service; 2) to gain time for the transition of the service from private to public responsibility; 3) to develop sound improvement plans and negotiate their implementation. The demonstration was an unqualified success.



From 1965 to 1968, the Department, in cooperation with the Metropolitan Transportation Authority of New York, subsidized the vital New Haven Line commuter rail service in a highly successful demonstration program. (Photo credit: Jack Swanberg)

With the inclusion of the bankrupt New Haven Railroad into the newly formed Penn Central Transportation Company, the New Haven Line commuter service was returned to private sector operation. There it would remain only until 1970 (see next chapter).

In 1961, the Connecticut General Assembly enacted a law, which became a series of statutes, to encourage the bankrupt New Haven Railroad to invest some of its scarce funds in improvements to rail service in Connecticut. The program allowed a railroad that provided both freight and passenger service in Connecticut (i.e., the New Haven Railroad) to apply for and receive an exemption from paying its annual railroad gross receipts tax in return for qualified investments (approved by the Public Utilities Commission) in service, physical plant, and rolling stock.

THE FEDERAL HIGHWAY ACT OF 1962 AND THE FORMALIZATION OF PLANNING

The Federal Highway Act of 1962 required that urban areas over 50,000 undergo a transportation planning process that is "*comprehensive, cooperative and continuing*" (the 3-C process). Connecticut subsequently initiated a statewide "3-C" process.

This far-reaching decision later enabled Connecticut to take the forefront in travel demand and air quality analysis. With the advent of main frame computers, the Department was able to develop travel demand models. Home interviews and roadside origin and destination studies were conducted and the information processed to enable the simulation of travel patterns which could then be predicted into the future.

In the early 1960s, the Hartford Area Transportation Study (HATS), the Waterbury Area Transportation Study (WATS) and the Southeast Area Transportation Study (SEATS) were undertaken. In the mid 1960s, the Highway Department, the Connecticut

Development Commission (which later became the Office of Policy and Management) and the Department of Agriculture worked together to carry out a comprehensive land use planning study, the Connecticut Interregional Planning Program (CIPP), for the entire state.

THE URBAN MASS TRANSPORTATION ACT OF 1964

Another boost to mass transportation in the 1960s came from the United States government. In 1964, the federal Urban Mass Transportation Act was passed, which recognized that the majority of the nation's population lived in metropolitan areas and that the welfare and vitality of urban areas (dependent as they were upon the satisfactory movement of people and goods) were being threatened by deteriorating and inadequate public transportation facilities.



Traffic snarls like this are motivation for both commuters and the Department to pursue transit opportunities.

The act authorized the formation of the Urban Mass Transportation Administration (UMTA) and provided financial assistance for developing improved mass transportation facilities, equipment, techniques and methods, both public and private. The act made grants or loans available through the Housing and Home Finance Agency within the U.S. Department of Housing and Urban Development (HUD).

Funds could be used for construction, reconstruction and improvement of facilities and equipment for mass transportation (including buses), and for coordination of mass transit with highways and other transportation modes. Later, in 1968, administration of funds was transferred to the U.S. Department of Transportation, which was created by Congress in 1966.

Under the act, grants for transit facility construction were distributed based on total population and population density. Eighty-five percent of the funds were earmarked for urbanized areas with populations greater than 750,000.

FORMATION OF U.S. DOT

On October 15, 1966, the U.S. Department of Transportation Act was signed into law. The act created a single multimodal federal agency to guide the nation's transportation policy and

administration. The purpose of forming the U.S. Department of Transportation (U.S. DOT) was *"to assure the coordinated, effective administration of the transportation programs of the Federal Government"* and to develop *"national transportation policies and programs, conducive to the provision of fast, safe, efficient, and convenient transportation at the lowest cost consistent therewith."*

The U. S. DOT became operational in April of 1967, headed by a cabinet-level Secretary of Transportation, and was comprised of a variety of major departments and agencies, including the Federal Highway Administration, the Urban Mass Transportation Administration, the Federal Aviation Administration, Federal Railroad Administration, and the U.S. Coast Guard.

The formation of the U.S. DOT was a harbinger of changing times toward more multimodal planning to meet transportation needs and toward greater flexibility in federal funding programs.

CHAPTER 8

THE CONNECTICUT DEPARTMENT OF TRANSPORTATION AND CHANGING TIMES

1969-1982

FORMATION OF "CONNDOT"

With the enactment of Public Act 768, the state legislature created the Connecticut Department of Transportation (ConnDOT). Connecticut became one of the first five states in the nation to develop a coordinated state transportation agency. The new agency was charged with all aspects of the planning, development, maintenance and improvement of transportation in the state.

Effective October 1, 1969, the new Department brought together the former Department of Highways (established 1895), the Department of Aeronautics (established 1927), the Connecticut Transportation Authority (established 1963), and the Commission of Steamship Terminals (established 1911). Each of these former agencies became a bureau within the larger Department. Two new bureaus were added, the Bureau of Administration and the Bureau of Planning and Research, for a total of six bureaus under the Commissioner of the Department.

The new agency would be a "managed" department, run according to business management principles. The choice of commissioner for the new organization showed this intent, for the new commissioner, George J. Conkling, had previously served 12 years as finance commissioner for the state. Commissioner Conkling would serve as Commissioner of the Department until 1971.

The legislature established goals for the Department, designed to integrate the overall transportation needs of the state with the elements of public safety, service, and convenience. Some of these goals were:

- To develop comprehensive, integrated transportation policy and a long-range master plan
- To assist in the development and operation of a modern, safe, efficient and energy-conserving system of highway, mass transit, marine and aviation facilities and services
- To study commuter and urban travel and in cooperation with federal, regional and local agencies and persons to formulate and implement plans and programs to improve such travel
- To study means of providing facilities for parking motor vehicles so as to encourage travel by the combination of motor vehicle and other modes of transportation
- To cooperate with federal, state, interstate and local agencies, organizations, and persons performing activities relating to transportation.

At the same time, the federal government's transportation focus broadened from the construction of interstate highways to include the improvement of existing high-volume roads. To meet that goal, Congress initiated a new federal aid program called TOPICS (Traffic Operations Program to Increase Capacity and Safety). The program created federal/state/local cooperation to improve the traffic-carrying ability and safety of local roads formerly ineligible for direct federal aid. Cities and regional planning areas with over 200,000 people were the focus of the program. To administer the program at the state level in

Connecticut, the Department established the Municipal Systems Section in 1969.

During these formative years of the new Department, there were seven commissioners who influenced its development. Commissioner Conkling served until February of 1971, when A. Earl Wood replaced him as Commissioner, serving until July of 1973. Joseph B. Burns then became Commissioner and served until March of 1975, when Samuel Kanell took the helm for a brief period, through December of that year. In January of 1976, James F. Shugrue was appointed Commissioner and led the Department until January of 1979. Commissioner Arthur B. Powers then served until October of 1981, when J. William Burns became Commissioner for his first term, which would last until 1991. These men were key in developing the integrated, multi-faceted Department that exists today.

THE ENVIRONMENTAL MOVEMENT

April of 1970 marked the celebration of the first Earth Day, an event which highlighted increased public awareness of environmental issues. In 1969, Congress had passed the National Environmental Policy Act (NEPA), under which any federally funded action, including the proposed construction of highways, railroads, airports and other transportation facilities had to first undergo the environmental impact process. The process had to include a report of any adverse environmental effects which could not be avoided if the proposal was implemented, measures to mitigate those adverse effects, alternatives to the proposed project, and the relationship between local short-term uses of the environment and the enhancement of long-term productivity.

In 1972, Connecticut passed its own version of NEPA, called the Connecticut Environmental Policy Act (CEPA), and established the Connecticut Department of Environmental Protection to oversee environmental regulations. Within the Department itself, Commissioner A. Earle Wood, appointed Commissioner in 1971,

created an Environmental Section within the Office of the Deputy Commissioner. It was later transferred to the Bureau of Planning and Research.

The need for environmental impact evaluations increased both the cost and the time needed to plan and construct new transportation facilities, as many new factors had to be considered in addition to simple transportation demand. Transportation agencies across the country continued to experience increased resistance to road construction. Residents near proposed roads objected to the expected noise, the impact on the surrounding landscape, and the amount of land needed to construct a road (interstates require up to 45 acres per mile, and from 50-100 acres per interchange.) People and wildlife were being displaced, and habitat, wetlands and sensitive natural areas were being impacted. In some cases there was considerable opposition to the secondary effects of new highway construction, as development was springing up around highway interchanges, impacting additional land and natural features. People were increasingly concerned with balancing economic growth and the protection of existing resources.



In the 1970s, there was a growing awareness of the effects of new highway construction, including land requirements of new highway interchanges, such as this one on I-84 in East Hartford and Manchester.

The increased awareness of the effects of hazardous wastes on the environment and the enactment of laws concerning their disposal also affected the Department. In 1990, the Department began a regular program of cleaning up oil spill sites, and, in 1993, started a comprehensive program to properly dispose of barrels of waste accumulated at construction sites and state garages throughout the state.

THE ENERGY CRISIS AND COMMUTER INITIATIVES

The energy crisis of the 1970s, precipitated by the shortages of gasoline and oil and associated price hikes, encouraged the Department to address commuter transportation more than it had previously. As early as 1969, however, the Department had initiated a commuter parking lot pilot program with four facilities located at strategic interchanges. By 1972, the development of commuter parking facilities had become a continuous and ongoing program.

The gasoline shortages of 1973-1974 prompted Governor Meskill to outline his three-point plan to be implemented by the Department, now under the leadership of Commissioner Joseph B. Burns. The plan called for express commuter bus service and the promotion of ridesharing (carpooling), in part through the construction of interchange parking lots.

The Department responded quickly. In 1972, the Department had started to provide express bus service from outlying towns into Hartford, first from West Hartford, then from Manchester. By January of 1974, the Department had developed and implemented seven express bus services to Hartford and two to New Haven. During calendar year 1975, five new express bus operations were implemented, and by the end of calendar year 1976, an additional four services were carrying express bus patrons to Connecticut's major employment centers. By December 31, 1976, the cumulative total ridership on express commuter buses had risen to nearly four million persons. Additional commuter bus operations were implemented as

warranted throughout the late 1970s. Commuter services also included a reverse commuter bus to take Hartford residents from the city to employers in the suburbs.

At the height of the energy crisis in 1979, the Department added extra buses and trains to the Connecticut Transit (bus) and New Haven Line (train) operations; imposed a gas sale limit at state-owned stations on the Connecticut Turnpike and on the Merritt and Wilbur Cross Parkways; expanded the hours of service of the Connecticut Transit Bus Information Centers; and promoted the use of bus service from nine inland communities to shoreline beaches.

Commuter parking lots continued to increase. In fiscal year 1973-74, six commuter parking lots were added to the five that then existed. The following year, 66 gravel lots were constructed and 10 paved lots were added.

Other energy saving initiatives included the passage of P.A. 78-309, which allowed cars to make right turns after a stop at a steady red light, and the imposition of the 55 mile-an-hour speed limit. In 1974, the state legislature recognized the need to fund mass transportation facilities and established a subsidization program. At the federal level, the National Mass Transportation Assistance Act of 1974 supplemented state funds by appropriating money to urbanized areas to finance capital projects and subsidize operating costs of mass transportation projects.

RIDESHARING

In 1972, the Department seemed to anticipate the coming energy crisis by initiating a pilot carpooling program in conjunction with the Hartford Central Business District. The goals of the project were to eliminate parking problems around the state capitol, reduce highway congestion, and establish a model that could later be expanded to private industry. The project focused on commuters to state agencies in Hartford and used a computer matching program to match commuters with similar

departure and destination times and locations. Carpooling commuters were given an incentive: certain prime parking spaces were reserved for carpools of four or more people. This program created the basis of the massive carpooling efforts of the Department during the energy crisis the following year.



Initiated in 1972, ridesharing is still an important program of the Department to reduce parking problems, highway congestion, and air pollution.

The Department continued to promote carpooling and in 1977, teamed with the Connecticut Department of Environmental Protection (CTDEP) to provide literature and seminars about carpooling and transit; encourage preferential parking or monetary incentives from employers; coordinate work and transit schedules to facilitate transit use by employees; enable employers to distribute monthly transit passes at cost or discount; help employers post maps, schedules and rates in their offices; and promote vanpooling.

In 1977, under the leadership of Commissioner James F. Shugrue, the Department developed a demonstration vanpooling project for state employees working in the greater Hartford area and implemented it in 1978 with five vans. The project was prompted by the Federal-Aid Highway Act of 1976, which designated vanpooling projects eligible for funding at 90 percent federal/10 percent local. After its demonstration with state employees, which showed that vanpooling worked, the Department used its share of federal funds to

purchase 30 vans for use by major employers in the ten urbanized planning regions in the state. Employers could either purchase or lease the vans, which were then leased to a group of employees. Connecticut's vanpooling program was on the cutting edge of public transportation innovation and prepared the Department for its next emergency response.

The gasoline shortage of 1979 led to the creation of the Governor's Ridesharing Task Force, appointed by Governor Ella Grasso, to coordinate and assist state, regional and employer-based efforts to encourage ridesharing. The Department, then headed by Commissioner Arthur B. Powers, did its part by computer-matching all state employees for carpooling. The state employee vanpooling demonstration was fully implemented with 20 vans in operation, and the Department's free carpool matching service was expanded to private employers. Governor Grasso's Ridesharing Task Force was the model used by President Carter to establish a similar federal task force.

Another step the Department made in promoting ridesharing was to cooperate in the formation of three non-profit ridesharing brokerages. In 1980, the Greater Hartford Ridesharing Corporation (known as the Rideshare Company) and Metropool in Stamford began operations. They were joined by Rideworks of New Haven in 1983. The purpose of these non-profit organizations was to promote ridesharing for more efficient use of Connecticut's highways.

Today, ridesharing helps the state meet 1990 Clean Air Act standards, particularly in the Fairfield County area. The brokerages offer free matching services to commuters and provide information on other public transportation services as well as information on highway construction. The brokerages also work with the Federal Highway Administration (FHWA) and the Department in planning future travel-to-work options and employee and employer incentives. These three brokerages are the backbone of the state's ridesharing efforts at present.

FLEXIBLE FUNDING

When people think of the Department, many still think primarily of highways, probably because of the long history of public involvement in roadway development and maintenance. Funding, particularly from the federal government, has had a profound influence on the development of the state's transportation system, as is true for the rest of the nation. The Interstate System and the Federal-Aid Highway Acts encouraged road construction in answer to the problems of traffic congestion and mobility. Highway funds could originally only be used for roads; other modes of transportation, including public transit, received funding in separate legislative initiatives.

In 1973, federal regulations on distribution of highways funds became more flexible. States were able to reallocate some funds designated for urban portions of the interstate system to transit systems or to other highway projects in urban areas. The Department took advantage of this flexibility. The portion of I-291 slated to pass through rural sections of West Hartford and the section of I-86 from Glastonbury to Manchester, along with some other proposed interstate projects, were "traded in" to fund a variety of different projects, including the Route 9 extension, the new Charter Oak Bridge, upgrade of the I-91/I-84 interchange in Hartford, upgrade of Route 6 between Willimantic and Plainfield, construction of a new bus maintenance and storage facility, and purchase of buses and vans.

Other mass transit efforts, such as the reverse commuter service, were also funded in part by the federal government, which now allowed states to finance urban mass transit programs from the Highway Trust Fund. In 1974, the Urban Mass Transportation Assistance Act, signed by President Ford, authorized the use of a portion of federal mass transit funds for operating expenses. While the greater share of

these funds, administered by UMTA, were still allocated for capital expenses, prior to this time UMTA funds could only be used for capital projects.

TRANSIT DISTRICTS

There were five transit districts (Hartford, Bridgeport, Westport, Shelton, and Meriden/Middletown) in 1972, when the General Assembly amended the transit district act (originally passed in 1961). The powers of transit districts were broadened to include regulation, and the Commissioner was authorized to provide financial assistance to districts through grants, loans or subsidies. The state would provide one-third of the capital cost for the purchase of new buses and other capital improvements, with federal funds from UMTA providing the two-thirds balance. It was hoped that providing capital costs would reduce the likelihood of operating deficits. Due to the preponderance of use of the private automobile, public transportation service had become financially unprofitable, making both urban and rural systems dependent on government subsidies to maintain essential services.

Transit districts were given additional authority as a result of legislation passed by the General Assembly in 1979, including the following powers: to establish, operate and maintain a transit system within the district; to acquire all or part of the property and franchises of companies operating a transit service within the district; to establish, construct, acquire, operate and maintain a transportation center; to operate services directly or indirectly by contract; and to establish fares. In addition, the legislation transferred responsibility for the regulation of buses and taxi services, including developing rules and regulations concerning fares, speed, schedules, passenger safety, and the issuance of operating permits, from the Division of Public Utility Control (the successor to the PUC) to the Department.

PENN CENTRAL GOES BUST: THE DEPARTMENT SAVES COMMUTER RAIL

In the late 1960s, with decreasing revenues and increasing costs, Penn Central Transportation Company was unable to operate its huge rail empire profitably. The railroad was caught in a downward spiral affecting all of its services -- commuter rail, intercity passenger rail, and freight rail.

Aware of the railroad's dim financial prospects and decreasing levels of service, the Connecticut General Assembly in 1969 enacted the Connecticut-New York Railroad Passenger Compact to ensure continuation of the essential New Haven Line commuter rail service. This compact authorized the Connecticut Transportation Authority (that year absorbed into the new Connecticut Department of Transportation), individually or in cooperation with the Metropolitan Transportation Authority (MTA) of New York, to acquire railroad assets, repair and rehabilitate assets, operate a rail service, or contract that service out for operation.

In 1970, when Penn Central filed for bankruptcy, the Department and the Metropolitan Transit Authority (MTA) of New York responded almost immediately. Having previously demonstrated the success of public operation of the New Haven Line from 1965 to 1968, the two parties once again entered into agreements to operate the service, this time with the trustees of the now bankrupt Penn Central. By October, 1970, four agreements were executed providing the framework for the preservation and improvement of the commuter rail service, effective January 1, 1971. Highlights of the agreements included provisions for the Department to lease, with an option to buy, all Connecticut rights-of-way leading to New Haven, New Canaan, Danbury and Waterbury, for a term of 60 years; for the Department and the MTA to share operating deficits on an equal share basis and for both

entities to set schedules, fares and standards; and for the Department and MTA to jointly purchase and rehabilitate 97 of Penn Central's existing electric cars and to purchase 144 new cars.

The 1970 agreements established a commitment to a number of infrastructure improvement projects on the New Haven Line. Due to their size and magnitude, they were anticipated to be accomplished over many years, which has indeed proven to be the case. Improvements have included conversion of the electric traction power system from the unreliable, antiquated Cos Cob Power Plant to the more reliable commercial power source; signal system replacement; programmed bridge rehabilitation and replacement; road bed rehabilitation; rehabilitation and purchase of rolling stock; and construction of maintenance facilities as needed.

On April 1, 1976, almost two months after the enactment of the Railroad Revitalization and Regulatory Reform Act (4R Act), the Consolidated Rail Corporation (Conrail) became an active railroad, taking over the profitable assets of Penn Central and other bankrupt railroads. Since the 4R Act preserved terms of the 1970 New Haven Line agreements, Conrail was required to replace the Trustees of Penn Central as the operator of the New Haven Line commuter rail service.

The Department's involvement with the New Haven Line intensified in 1981 when Congress passed the Northeast Rail Services Act. The act relieved Conrail of its obligation to operate commuter rail service. The Department and the Metropolitan Transportation Authority (MTA) of New York immediately stepped in, electing to take over commuter rail operations themselves. The MTA created the Metro-North Commuter Railroad Company to operate two commuter lines within New York State for the MTA and to operate the New Haven Line in Connecticut and New York for the Connecticut Department of Transportation-MTA partnership. Metro-North assumed operations on January 1, 1983.

AMTRAK AND CONRAIL

To maintain the unprofitable intercity passenger service around the country, Congress passed the Railroad Passenger Service Act of October 30, 1970, which established the National Railroad Passenger Corporation, known as Amtrak, to run the service. Intercity service on Amtrak's Northeast Corridor running through Connecticut connects Boston and New York City and Washington, D.C. via the Connecticut shore line route and connects Springfield, Massachusetts, to New York City on the Inland Route through Hartford. Amtrak's intercity operations continue to run at the expense of the federal government, with no subsidies from Connecticut or the Department.

The decline of Penn Central was not an isolated case in the railroad industry. Other railroads were also failing. The bankruptcy of the Penn Central and six other railroads in the northeast and midwest regions of the United States prompted Congress to pass a series of acts to prevent the complete collapse of rail freight service in the region.

The Regional Rail Reorganization Act of 1973 (3R Act) established the United States Railway Association (USRA) to plan the formation and structure of a new railroad, the Consolidated Rail Corporation (Conrail), using the assets of the bankrupt railroads. Congress created Conrail as a private, for-profit corporation, which was initially owned by the federal government (85 percent) and by rail employees (15 percent). The USRA's Final System Plan for Conrail was to include only the profitable freight lines of the bankrupt railroads.

The 3R Act also established the Local Rail Service Assistance (LRSA) Program to financially assist the states in the northeast and midwest regions to preserve rail freight services on light density lines, which were excluded from the Conrail system but were considered by the states to be essential for their economies. The LRSA Program, which was administered by the

Federal Railroad Administration (within the U.S. DOT), provided funds for both operating subsidies and capital improvement projects for the excluded lines. The Department initially utilized LRSA funds to rehabilitate four light density lines and subsidize their operations to ensure, at least temporarily, continued service.

The 4R Act of 1976 expanded the LRSA Program from a northeast and midwest program to a national program, since there were freight railroads failing in other parts of the nation. In 1978, Congress amended the program's project eligibility criteria to include capital assistance for marginally profitable lines before (rather than after) abandonment. Effective September 30, 1980, use of LRSA funds for freight operating subsidies was excluded. In addition to applying what LRSA funds were available toward rehabilitation programs, the Department used such funds to acquire various active and inactive rail rights-of-way.

As the 1970s came to a close, there were indications that federal LRSA funding would continue to diminish and could possibly be eliminated. The Department took action to continue its support of the rail freight industry serving Connecticut. To further its rail preservation and improvement goals, the Department used state funds to augment the diminishing federal funds. The evolving capital assistance program for freight railroads provided 70 percent of the cost of projects approved by the Department from state or state-federal sources and 30 percent from the participating railroads.

The Connecticut General Assembly also indicated its continued support for the preservation and improvement of rail freight service. With the support of the Department, the General Assembly in 1978 amended the Railroad Tax Exemption statutes (originally enacted in 1961 for the New Haven Railroad). These amendments made all railroads serving Connecticut eligible to participate in the Program, focused the eligible tax exemption projects on physical plant improvements, and transferred the rail regulatory authority to the

Department. Under this revised Tax Exemption Program, if a railroad expends an amount of money equal to its railroad gross receipts tax liability on capital projects approved by the Department, the Department would approve a tax exemption. The logic of this major change in the statutes was that allowing Connecticut's railroads to make investments in improving their plant would improve the service provided to Connecticut rail users and improve the survivability of the railroads, which would be more beneficial to the state in the long run than receiving the tax revenue.

Despite Congressional actions and billions of federal dollars, Conrail was unable to achieve financial success. Like Conrail, other major U.S. railroads were unable to operate efficiently and profitably within the restrictive and time consuming regulations of the Interstate Commerce Commission. In 1980, Congress enacted the landmark Staggers Act, which essentially deregulated the freight railroad industry for the first time in almost 75 years, since the 1906 Hepburn Act. Deregulation meant that, with few exceptions, railroads could charge whatever rates the competitive transportation environment would allow. In those cases where shippers were "captive" to the railroads (e.g., shippers of coal, grain, etc.), rates were somewhat constrained but fully covered operational costs and provided a reasonable profit. Within the year and during the years that followed, Conrail, like the rest of the railroad industry, made significant financial gains. Conrail's financial success after the Staggers Act was also influenced by the Northeast Rail Services Act of 1981, which relieved Conrail of its obligation to operate various commuter rail services, including the New Haven Line. The act also set in motion the process to determine whether the 85 percent federal ownership of Conrail could be or should be sold, and if so, how and to whom.

THE DEPARTMENT SAVES LOCAL BUS SERVICES

One of the most visible examples of the state's

commitment to public transportation came in the early years of 1970s. For many years, fixed route bus service had been operated successfully by the Connecticut Company in the major cities of Hartford, New Haven and Stamford. However, with the increasing popularity of automobiles, bus ridership began to decline in the early 1970s. Decreasing revenues made it difficult to keep up the buses and related equipment and to satisfy employees. In November 1972, a strike forced the shutdown of service and the future of bus operations in the three cities was uncertain. In March 1973, the Department began subsidization of The Connecticut Company to get the buses rolling again. Three years later, with the assistance of UMTA funds, the Department purchased the Connecticut Company to ensure continued bus service in the three large metropolitan areas previously served by the company. Services continued under the new name of Connecticut Transit (CTTransit). Since the 1976 purchase,



In 1976, the Department purchased the Connecticut Company, now called CTTransit, to ensure continued bus service in the greater Hartford, New Haven and Stamford areas.

the Department has made major commitments to improving the bus systems in these areas, involving construction of new bus facilities and major purchases of new buses.

AIRPORT DEVELOPMENT

When the Connecticut Department of Transportation was formed in 1969, all of the airports in the state came under the regulation of the new Department's Bureau of Aeronautics, with responsibilities to regulate and license all airports in the state and provide technical assistance for the general development of municipal and private airports. The Bureau also began to manage the six state-owned airports: Bradley International Airport in Windsor Locks; Groton-New London Airport; Waterbury-Oxford Airport; Windham Airport; Danielson Airport; and Brainard Airport in Hartford.

By far the largest and most critical airport in the state is Bradley International. The airport has undergone several phases of improvement, including the construction in 1950 of a new passenger terminal, which is still in use as Terminal B. The Bradley Connector, running from I-91 to the airport, was constructed in 1959, and an international arrivals building opened in 1971. In 1982, the Department launched the Bradley Improvement Program, which called for numerous improvements including rehabilitation and construction of passenger and air cargo facilities, improved and expanded runways and airplane parking areas, and improvements to the road system.

STATE PIER AND WATERWAYS

The State Pier came under the management of the Bureau of Waterways within the newly formed "ConnDOT". Operation of the pier is leased to private operating companies. Until 1975, the revenues from the pier were deposited in the State Pier Operating Account. The lessee's expenses were paid from this fund, and any profits were divided 80 percent to the state and 20 percent to the operator. In June 1975, the revenues were deposited into the General Fund and the following year a new lease agreement was drawn up which made the operator responsible for buying new equipment. The state received a flat fee plus a percentage of the gross earned revenues.

Prior to World War II, wood pulp and intercoastal general cargo made up the bulk of cargo going through the port of New London. As many as one ship per week unloaded at the State Pier. After the war, however, increase in trucking as well as competition from rail freight made ocean transport less economical. Cargo tonnage had declined through the years, reaching its lowest point in 1974-75. In 1974 the only bulk cargo at the State Pier was hemp. From 1975 to 1978, cargo diversified to include wood pulp, hardboard, potatoes, waste paper, sulfuric acid, and steel exports. In 1978 the Bureau of Waterways began developing lumber as an import product for the pier and the University of Connecticut conducted a study of the feasibility of using the pier for grain shipments.



Major cargos that have passed through the State Pier include wood pulp, hemp, hardboard, potatoes, waste paper, sulfuric acid and steel exports. The pier has also been used by the U.S. Navy, which leased the northeast side of the pier from 1951 to 1991.

The Department began rehabilitating the pier in 1978 to replace decking and pilings to improve pier support strength. Additional improvements were planned, including dredging near the pier, adding storage areas, remodeling the main terminal building, installing security fencing, and rehabilitating existing structures. An attempt in the early 1980s to make the pier a center for cruise ships proved unsuccessful. As

with many smaller ports, New London has historically been unable to compete with the larger eastern seaboard ports, primarily due to the preponderance of large cargo ships and the shift of many cargoes to containerized shipping.

THE DEPARTMENT AND THE GREAT SOCIETY

The Civil Rights Act of 1964, the cornerstone of President Lyndon Johnson's administration, affected the way the state and the Department managed its business. The act outlawed racial, religious and gender discrimination in employment. Public agencies could lose federal funding if found guilty of discrimination.

In 1978, the Department appointed an Affirmative Action Advisory Committee to oversee and monitor the Department's compliance with Federal Equal Employment Opportunity requirements. One result was the increased hiring of minority and women employees. However, federal regulations reached further than internal employees. According to federal guidelines, a percentage of work contracted by the Department has to be with minority or women-owned businesses. A Contract Compliance Unit was established to screen and certify minority and woman owned businesses. The certified companies have to prove that they are financially sound and actually owned and operated by minorities or women. Companies are recertified every year and every year, the Department establishes goals for hiring disadvantaged businesses. Major contractors who subcontract to disadvantaged businesses are monitored to ensure that there are no abuses of the system.

THE TECHNOLOGY AGE

The advent of the computer age had a major impact on how the Department does business, as it has in virtually every other segment of society. The Department operated its first mainframe computer in 1965 to model statewide transportation demand. Personal

computers have now found their way into every office to facilitate almost every function of the Department.

A computerized traffic control signal system was established on Route 44 between Canton and Hartford in 1982. The system, designed to keep traffic flowing smoothly, has since been expanded to include 446 signals on 27 major routes in 44 towns.

With federal funding, the Department developed a comprehensive pavement management system in 1982. The goal of the system was to systematically obtain, record, and analyze data on the state highway system to be used in long-range planning.

A Technology Transfer Center was established in 1983 at the University of Connecticut. The center disseminates information from the Department to local government agencies through a quarterly newsletter. Data from the Department's research division is available online to the center, as well as to other bureaus within the Department.

BATTLING THE ELEMENTS

Technology can do little when nature unleashes its forces. The Department has had to respond to several noteworthy emergency situations during modern times because of natural events. From 1969 to 1982, two events stand out.

On Monday, February 6, 1978, snow started to fall, and by Tuesday morning, more than 16 inches of snow blanketed the Hartford area. Governor Ella Grasso declared a state of emergency at 9:15 p.m. Monday and closed all of the roads to non-essential vehicles effective at 10:00 p.m. Only plows and emergency vehicles were allowed to travel. The state of emergency lasted two and a half days, until the state's roads were again passable. Businesses and schools were closed, Bradley Airport shut down until Tuesday night, bridges along the coast were impassable, and Groton and Westport experienced coastal flooding. The National

Guard helped plow the streets. Towns overspent their snow removal budgets, and the Department nearly depleted its supply of salt. The state and the towns received federal emergency assistance to help defray snow removal and cleanup expenses.

On October 3, 1979, at 2:54 p.m., a tornado descended on the towns of Windsor, Windsor Locks and Suffield, causing one death and \$2

million worth of property damage. The course of the tornado was generally northerly, impacting Route 75, Route 20 and the eastern sector of Bradley International Airport. The Department's Bureau of Highways responded with a heavy complement of personnel and equipment to participate in the clean up and restoration work along the affected roads and airport runways.



The snow storm that fell on February 6-7, 1978, closed Connecticut roadways, bridges and airports to all but plows and emergency vehicles.



The Mobile Command Center facilitates the Department's operations at emergency and disaster sites.

CHAPTER 9

INFRASTRUCTURE RENEWAL AND OPTIMIZATION

1983-1995

MIANUS RIVER BRIDGE

At 1:30 a.m. on June 28, 1983, a 100-foot section of the Mianus River Bridge on the Connecticut Turnpike collapsed. Three people were killed and three more injured. The bridge, which normally carried about 90,000 vehicles per day, was closed immediately and traffic rerouted to Route 1 through the Greenwich business district. Guided by Commissioner J. William Burns, in an engineering and construction feat deserving of recognition, the Department reopened the bridge on September, 1983, only three months after it was closed. Within 25 days after the collapse, a substitute bridge section was in place to allow temporary passage of traffic until the new bridge could be opened.

While the collapse of the bridge created a crisis within the Department, national media coverage helped raise public consciousness about the generally poor condition of roads and bridges nationwide. Federal aid highway bills starting in 1944 had provided money and incentive for building new roads, but no federal funds were allocated for maintenance and repair until 1976. As a result of this deferred maintenance, roads and bridges across the country had been left to deteriorate.

THE 1984 TRANSPORTATION INFRASTRUCTURE RENEWAL PROGRAM

Connecticut acted promptly to ameliorate its own infrastructure deterioration problem. In October, 1983, the General Assembly voted funds for emergency repairs to highways and bridges throughout the state. These funds were in addition to money already allocated to

replace bridges in the southeastern part of the state washed out or damaged by floods in June of 1982.

Governor William O'Neill and the General Assembly formulated and passed a 10 year, \$5.5 billion Transportation Infrastructure Renewal Program in February, 1984 (P.A. 84-254 and S.A. 84-52). The program is funded by the proceeds of sales of State Transportation Obligation (STO) bonds. The STOs finance the following types of projects: resurfacing and reconstruction of roadways; state and local bridge improvement, rehabilitation, and replacement; continued construction of the interstate system and of intrastate highways; the purchase and construction of bus and rail facilities and equipment; and the development and improvement of general aviation airport facilities, including grants-in-aid to municipal airports.

Effective July 1, 1984, the Special Transportation Fund was established. The fund's resources are dedicated to maintaining and improving the state's transportation system. The Special Transportation Fund receives revenues from a number of different sources: motor fuels taxes; motor vehicle receipts and transportation related licenses, permits and fees; Federal Transit Authority (FTA) operating assistance grants; interest income; and general fund transfers. These resources are used to finance transportation debt service of the STO bonds, Department operating expenses, operating subsidies for bus and rail services, and the costs of the pay-as-you-go program. Debt service results from the issuance of 20-year bonds to provide resources for major capital improvements to the transportation system. Under the covenants governing the STO bonds, debt service requirements must be satisfied first.



The collapse of the Mianus River Bridge on June 28, 1983, was the impetus behind the state's \$5.5 billion Transportation Infrastructure Renewal Program, which funnelled much needed funds into maintenance, repair and reconstruction of the state's transportation facilities. Within 25 days, the Department had constructed a temporary bridge (inset) which enabled traffic to resume.

Integral to the legislation were several bridge programs: the Local Bridge Program to improve bridges on highways other than the interstate; the Town Bridge Program, which provided funds for 364 structurally deficient bridges owned by municipalities; and the Orphan Bridge Program which addressed the needs of town bridges passing over defunct railroads and no longer maintained by either.

On July 9, 1984, as part of its reorganization and in response to the new emphasis on bridges, the Department established the Office of Bridges and Structures. The new office was responsible for the administration and direction of two specialized divisions charged with the safety inspection, evaluation, and design of bridges and structures on the state's highways.

NEW CONSTRUCTION

Although the Department focused on reconstruction and rehabilitation in the decade following the Mianus River Bridge collapse, new road construction did not stop. Construction of certain portions of the interstate system, as well as the extension of Route 9 (the Central Connecticut Expressway), continued, despite a \$13 million decrease in federal aid funds due to passage of the deficit-reducing Gramm-Rudman-Hollings Act in December of 1985.

Other recent construction projects have included two new bridges and modification of the I-84/I-91 interchange. The new Charter Oak Bridge, which carries Route 15 across the Connecticut River from Hartford to East Hartford, was opened to traffic on August 8, 1991. The \$93 million bridge has three lanes in each direction, an eight-foot wide sidewalk along the structure's upstream side, as well as bicycle and handicap access from both sides of the river. The new Baldwin Bridge, which carries I-95 over the Connecticut River between Old Lyme and Old Saybrook, was opened to traffic on May 25, 1993, eight months ahead of schedule and \$325,000 under budget.

A major improvement in Connecticut's expressway system was made on October 11, 1990, when the new "flyover" connector from eastbound I-84 to northbound I-91 in Hartford was opened to traffic. Constructed as part of an \$88.5 million modernization of the I-84/I-91 interchange, the flyover allows traffic to move directly between the two expressways rather than having to pass through a city street connection which had previously been the case.

CONGESTION MANAGEMENT

The efficient and safe movement of traffic in urban and developed areas has continued to challenge the Department. Many methods of relieving congestion, aside from building more roads, have been implemented to improve travel efficiency. Tollbooths along the Connecticut Turnpike often created bottlenecks during rush hour. In November, 1983, the Department began selling tokens to commuters in an effort to expedite movement through the toll plazas.

The token system did not remain in use for long. In January, 1983, a tractor trailer truck collided with three cars at the I-95 toll plaza in Stratford, killing seven people and injuring many others. The accident prompted the Department and state legislators to reconsider the use of tolls strictly from a safety standpoint. The decision was made to remove the eight toll plazas on the Connecticut Turnpike and the one on the Bissell Bridge by December 31, 1985. Tolls on the Merritt and Wilbur Cross Parkways continued in operation until June 24, 1988. The removal of tollbooths did improve travel time and safety, but also reduced revenue for the Transportation Fund and impacted over 400 people who lost their jobs as of January 1, 1986.

April 28, 1989 marked the end of state highway tolls collected in Connecticut, with the closing of the Charter Oak Bridge toll station. Governor William O'Neill and Commissioner Burns officiated at the ceremonies as the last toll



Recent modifications to the I-84/I-91 interchange in Hartford have provided major improvements to Connecticut's expressway system.

was paid by William Thornton, President of Manchester Sand and Gravel Company. Mr. Thornton, as a child of 13, paid the first toll on the Charter Oak Bridge when it opened on September 5, 1942.

* * *

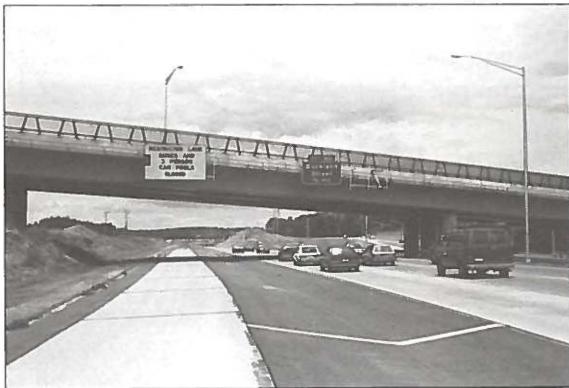
A number of initiatives were taken to improve traffic flows around Hartford. Routes I-91 between Hartford and Windsor and I-84 west of Hartford were widened to accommodate increased commuter traffic. The Dexter Coffin Bridge over the Connecticut River underwent rehabilitation. In addition, the Department built high occupancy vehicle (HOV) lanes known as "diamond lanes" to encourage car pooling and to reduce congestion on I-91 north

and I-84 east of Hartford. The single-car, single-driver, personal convenience mentality of the nation's drivers, plus the relatively low price of gas, has meant that car pooling and other ridesharing and mass transit efforts of the Department have involved a continuing program of public education.

In 1990 the Department began developing an Incident Management Program to facilitate traffic flow and movement. The initial system in the Hartford area covering approximately 12 miles in the I-84/I-91 interchange area is comprised of radar detectors, CCTV cameras, computerized signal systems and a statewide system of variable message signs. The traffic data and video is transmitted to a 24 hour operations center in the Department

headquarters in Newington. A 1-800 number has been established for use by the state and local police to report incidents and request Department assistance in emergency situations.

The most ambitious incident management project to date in Connecticut is a fiber optic based system along a 56 mile stretch of I-95 from the New York State Line to Branford, utilizing radar detectors, CCTV cameras strategically placed to give complete coverage, expanded computerized signal systems with pre-timed alternative routes, additional variable message signs utilizing LED (light emitting diode) technology, and a 24 hour operations center to be operated within the dispatch area of the new Bridgeport State Police Barracks. These and other Intelligent Transportation Systems (ITS) projects are the responsibility of the Division of Highway Operations, established in 1991 in recognition of the need to increase the efficiency of the existing highway system.



High occupancy vehicle (HOV) lanes, known as diamond lanes, encourage carpooling on I-91 north of Hartford and I-84 east of Hartford. When first opened, three persons were required per vehicle, rather than the two now allowed.

HIGHWAY SAFETY INITIATIVES

Concern for traveler safety led the division to develop and patent the Narrow-site Connecticut Impact-Attenuation System. In May of 1982, the Department started to research a new highway crash cushion, constructed of steel tubes, that would dissipate the energy of a crash and prevent a vehicle from rebounding back into traffic. Testing was conducted in 1983 at Cambridge University (England), Calspan Advanced Technology Center in Buffalo, New York, and at the Texas Transportation Institute. The attenuation devices were field tested in 1984, after which they were regularly put into use.

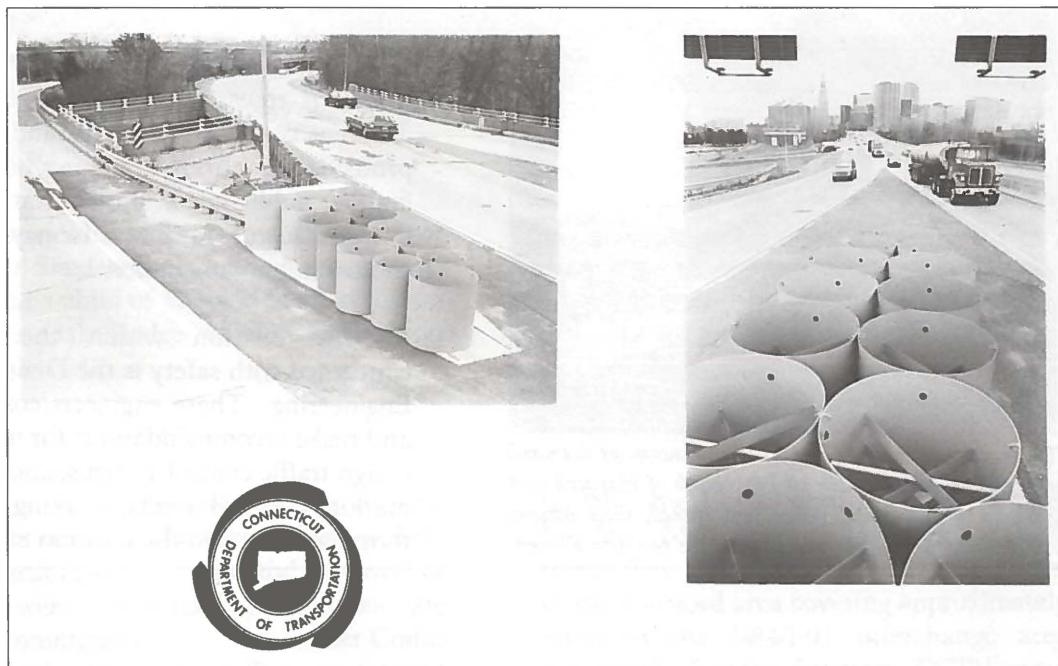
The Department had long been involved in research and testing of materials and techniques. In the late 1940s, the Department had also collaborated with the engineers of the then New Jersey State Highway Department on the development of the "Jersey barrier". First put into use in 1949 on Jugtown Mountain, New Jersey, it was not used in Connecticut until 1968, when it was used on I-91 in New Haven.

The Department's Division of Research and Materials research division conducts tests on different types of pavements and on corrosion protection for bridges, among other items, to improve public safety, protect state investments in infrastructure, and save money through wise choices in building materials.

Another division within the Department concerned with safety is the Division of Traffic Engineering. These engineers conduct surveys and make recommendations for improvements, design traffic control systems, and monitor lane markings, speed limits, parking along major thoroughfares, and the location of cross walks.



The Division of Highway Operations runs the Department's Incident Management Center to monitor and control traffic flow, traffic lights, and roadway signs in an effort to keep the state's roadway traffic on the move.
(Photo credit: Peter Glass)



Safety is one of the primary goals of the Department. The Division of Research and Materials developed and patented the Narrow-site Connecticut Impact-Attenuation System in the mid-1980s.



Department personnel disguised as Vince, Bucklebear and Larry visit schools and fairs to bring the message to young and old alike to buckle up and avoid becoming "crash dummies".

AVIATION

The Bureau of Aviation and Ports licenses and regulates 123 public and private aviation facilities in addition to the six state-owned airports. The Bureau licenses airports, heliports, and seaplane bases, manages the state-owned airports, acts as liaison with federal and local agencies, and provides technical and financial assistance to municipal and private airports.

During the 1980s and 1990s, infrastructure renewal and transportation planning have been integral to the operations at the six state airports. These airports have received increased attention and integration into statewide transportation planning. In 1986, the Department developed a Connecticut State Airport System Plan to coordinate operations among airports in the state and the region, and to meet the requirements of the National Plan of Integrated Airport Systems. Over the past 10 years, state-owned airports have upgraded their radar and navigation equipment, runway lighting, runways and taxiways, and passenger facilities using Federal Aviation Administration (FAA) and state funds.

Bradley International Airport, which is financially self-supporting, periodically receives capital funds from the FAA to upgrade and maintain its equipment so the airport can serve as the alternate landing site for Boston's Logan and New York's JFK Airports. Additional federal funds help maintain the airport as the base for Army and Air Force National Guard installations. Today, Bradley has one of the most sophisticated instrument landing systems in the country.

Bradley International Airport provides passenger service to most major hubs in the U.S. and most cities in Florida, as well as service to Canada and the Caribbean. There are currently 21 air carriers, seven of them major airlines, operating at the airport with over 250 flights daily. With flights to Canada and the Caribbean, Bradley has customs officials on hand at all times. Immigration, agriculture and public health inspectors are on call to meet incoming planes as needed. Two fixed-base operators (FBOs), AMR-Combs and Signature Flight Services provide fuel, maintain general aviation operations and de-ice planes. Passenger service has remained relatively stable over the past several years, with an increase in charter and low fare carriers in 1995.

Bradley is not just a passenger airport. All major cargo and express carriers serve Bradley, and UPS is scheduled to build a major regional sorting facility there in the near future. Cargo use of the airport has been and continues to be the area of greatest growth. In anticipation of increasing passenger and cargo traffic, the airport recently added two taxiways and rehabilitated the main runway. Long range plans include increased marketing of the airport as an alternative to Logan and JFK airports as well as renovation and expansion of the passenger terminals.

In 1983, the state legislature approved a \$100 million improvement package for the airport, including a shuttle from remote parking, concessions, improved public parking and public road system, terminal renovation and addition of a second passenger terminal, and the

construction of air cargo facilities. Private investments the following years, amounting to over \$300 million, provided an additional air cargo building, a sales and maintenance facility, a regional post office, four rent-a-car service centers, and a 280-unit hotel.



New passenger terminal facilities at Bradley International Airport were part of the 1983 \$100 million improvement program.

The Air National Guard maintains a base at Bradley and recently constructed new facilities, as did the Army Aviation Support facility which also leases space at Bradley. Chinook and Blackhawk helicopters are kept in military and civil disaster readiness.

Unlike Bradley, which is economically self-sufficient, the state's other five airports are supported through the transportation fund, where all of their fees are deposited. Like Bradley, they also receive capital improvement funds from the FAA.

Brainard Airport, located in southeast Hartford, is one of the busiest in the state. When Bradley started developing in the 1950s, commercial jets moved their operations from Brainard. By 1958 all commercial carriers had relocated to Bradley. The state and the city of Hartford entered into an agreement that year, giving control to the state and making half of the airport into an industrial park. Today, Brainard Airport has

one turf and two paved runways and a federal control tower staffed 18 hours a day. Passenger traffic is primarily corporate. Facilities include two aviation terminals, maintenance facilities, air taxi service, and flight schools. Brainard serves as the reliever airport for Bradley.

Danielson Airport, in the eastern part of state, was originally developed as a small air strip to accommodate aircraft arriving for service at the Harvard A. Ellis Regional Vocational Technical School. Funding for the school and the airport came from the state legislature. The single paved runway was completed in 1962. The Civil Air Patrol is located at the airport. During the Infrastructure Renewal Program of 1984, Danielson received new security fences, a rotating beacon, and new surfaces on roadways and parking areas. A fixed base operator at the airport provides repairs, flight instruction, fuel and charter service.

Groton-New London Airport was established as the first state airport in 1929. Originally called Trumbull Airport after Governor Jonathan Trumbull, the airport was taken over by the Navy during World War II. The Navy built the runways before the state resumed ownership in 1948. Today the airport has two paved runways for both scheduled air carriers and general aviation. Under the Infrastructure Renewal Program, the airport received new runway approach lights and parking facilities. It currently provides a control tower and precision instrument approach equipment.

Waterbury-Oxford Airport, in the towns of Oxford and Middlebury, opened for public use December 15, 1969. Planes can use either of two runways and have the assistance of a precision instrument landing system. A fixed base operator at the airport provides aircraft and auto rentals in addition to repairs and fuel.

The Windham Airport, in the eastern part of the state, was originally constructed and maintained by the city of Willimantic. In July 1975, the state purchased the facility for one dollar. Two active runways and other services are operated by Windham Aviation Inc.



The Windham Airport, constructed by the Work Progress Administration during World War II, was owned by the City of Willimantic before becoming a state airport in 1975.

CONTINUED COMMITMENT TO FREIGHT RAIL AND RAIL PRESERVATION

The Department's commitment to the maintenance of viable freight rail in the state was reaffirmed in 1983, when Commissioner J. William Burns signed a policy memorandum formally establishing the Rail Preservation and Improvement Program. The major components of the Program were the following: increased state capital assistance funding to the freight railroads; preservation through acquisition of active rail lines for continued rail use; and rail banking or land banking of inactive rail lines for future transportation use. (Rail banking involves the acquisition of the tracks, structures,

etc., as well as the right-of-way, whereas land banking involves the acquisition of only the rail right-of-way.)

The tax exemption program provides additional financial assistance to freight rail operators. Railroads in the state are taxed on their gross receipts. If a railroad spends, on capital improvement projects approved by the Department, an amount equal to its tax liability, the railroad may obtain an exemption from the tax. The logic was that putting money into capital improvements would ensure ongoing maintenance of physical plant, which is as beneficial to the state as receiving tax revenue. The goal of rail banking and land banking is to preserve contiguous portions of rail right-of-ways for future transportation use. The Department acquires abandoned rail lines when they connect major urban centers, are part of a line that connects urban centers, or have potential for future freight use. In an effort to increase town support of railroads, the Department considers acquiring abandoned freight lines under the following conditions: the towns through which the line runs have zoned the adjacent lands for industry and are supportive of industrial development in the area; utilities are available and/or accessible to the adjacent lands; and environmental conditions are conducive for industrial development.

The Rail Preservation and Improvement Program is still an ongoing program of the Department, which the Department plans to pursue as aggressively as possible, given the financial constraints at both state and federal levels. Some of the most significant projects completed under the program have included the following: state acquisition of many segments of rail line; the rehabilitation of Conrail's bridge over the Housatonic River in Derby and Shelton; construction of the Providence & Worcester Railroad's Poquetannuck Cove Bridge in Ledyard; Central Vermont's installation of continuously welded rail; and the rehabilitation of the state-owned railbanked (inactive) line from New Milford to North Canaan to allow reactivated freight service by the Housatonic Railroad.

COMMUTER RAIL OPERATIONS AND SHORE LINE EAST

The amendment of the agreements between the Department and the MTA of New York in June of 1985 changed the cost sharing ratio of the New Haven Line's operating deficit and capital projects. The Department now provides 56 percent of the main line's operating deficit and 53 percent of the New Haven Line share of Grand Central Terminal's operating deficit. The Department also pays for 100 percent of the capital costs in the state and 100 percent of the operating deficit of the three Connecticut branch lines (New Canaan, Danbury, Waterbury). Also in 1985, the Department exercised its option to purchase the New Haven Line right-of-way in Connecticut, including the three branches.



The state initiated a new commuter rail service, Shore Line East, in 1990. It provides commuter passenger service between Old Saybrook and New Haven.

The Department initiated a new commuter rail service, the Shore Line East service, in May of 1990, with Amtrak as the contract operator. Shore Line East provides commuter passenger service to New Haven from points east of the city. The service is strictly commuter, with trains operating from Old Saybrook to New Haven in the morning and return trips in the afternoon and evening, Monday through Friday. Shore Line East trains connect with the New

Haven Line service for continuation rail trips to points west in Connecticut and to New York City.

PUBLIC TRANSPORTATION PLANNING

In the 1970s and early 1980s, mass transportation was primarily an urban issue. In the later 1980s and into the 1990s, the Department and the transit districts became more concerned with public transportation that meets the needs of the population, whether urban, suburban or rural. Currently, five Department subsidized transit districts provide combinations of fixed route, commuter subscription and demand responsive services throughout the rural regions of Connecticut. In the urban areas, nine transit districts provide similar Department subsidized services on a larger scale. In addition to the state-owned Connecticut Transit (CT Transit) services in the Hartford, New Haven and Stamford areas, three private companies provide local fixed route service for the Department in five urban areas that are not covered under any transit district authority. In Hartford, marketing studies and changing demographics are helping the transit district and the Department reorganize and expand services to meet user needs. Suburban areas present a particular problem, since not all riders need or want to go from the suburbs to the city. The Department is currently studying ways to move people efficiently within suburban areas.

Public transportation will be an area of continued activity for the Department in the coming 20 years. The Connecticut Statewide Transit System Plan completed in March 1991 acknowledged a number of factors that will be important considerations in public transportation planning: the increase in automobile use in the 1980s, associated with families having two or more workers; changing demographics, including more elderly citizens; increasing suburbanization which makes public transportation along established lines less effective; decrease in public funding; and the realization that highways alone cannot solve the

growing transportation needs of the state. Although these factors pose difficulties, Connecticut is in an enviable position compared to other states when it comes to statewide planning. Unlike surrounding states, which have separate transit authorities managing public transportation, public transportation in Connecticut has been under the purview of a single bureau within the Department since 1969. Integrated planning is therefore easier and funding more flexible.



To improve public transportation facilities in the state, the Department has used Urban Mass Transportation Administration (UMTA) funds for a variety of projects, including acquisition of rolling stock for the New Haven Line (top) and construction of a bus garage in Hartford (bottom).

Since 1983, the Connecticut Public Transportation Commission (CPTC) has advised the governor, the state legislature and the Department on surface transportation projects. The CPTC also assists the Department

in public involvement in consideration of projects. The CPTC evolved out of the Connecticut Transportation Authority (CTA), which previously had the authority to operate, maintain and improve rail passenger and bus services. In 1969, when the CTA was absorbed into the new Department and the Department assumed its operations, the CTA was disbanded and transformed into an advisory agency to the Department. In 1983, this advisory role was expanded beyond the Department to the governor and legislature.

In 1994, the Department began the update of its State Rail Plan and initiated an intermodal management study to identify opportunities for more efficient use of the state's facilities and resources. Rail and bus lines will undoubtedly continue as major transportation programs within the Department as the Department seeks alternatives to crowded highways.

THE AMERICANS WITH DISABILITIES ACT OF 1990

The Department has committed itself to the spirit and letter of the Americans with Disabilities Act of 1990 (ADA), a landmark civil rights law. Under the ADA, individuals with disabilities are afforded equal access to public mass transportation. The ADA has had an impact on both the bus and the rail services provided by the Department.

The ADA states that as new fixed route buses are purchased, they must be accessible to persons with disabilities. This means that they must have wheelchair lifts, kneeling entrances, as well as many other accessibility features to allow easy access to individuals with disabilities. Connecticut is ahead of the rest of the country in this effort. The state passed its own legislation stating that all fixed route buses in Connecticut must be lift equipped by September of 1996. Approximately 85 percent of the buses are already lift equipped, and it is anticipated that all buses will be equipped by the deadline. This will allow everyone to access Connecticut's various bus systems.

The Department subsidizes fixed route bus transportation throughout the State of Connecticut. Under the ADA, wherever fixed route buses are run, comparable, door-to-door service, called paratransit, must be provided for people who have a disability that prevents them from using the fixed route. Paratransit services have been implemented in every bus service area in the State. For the four year period of 1993 through 1997, the Department has budgeted a total \$19.5 million to provide this equivalent service to people with disabilities.

Along with these services, the Department is offering "Travel Training" to persons with various types of disabilities. This program, which is being run by the Kennedy Center of Bridgeport, a national leader in this field, is designed to train people with disabilities to access fixed route transportation. Upon completion of the training, people can begin to enjoy the freedom and flexibility that fixed route bus services offer.

* * *

Under the ADA, a number of key commuter rail stations must be fully accessible to the disabled. As required by U.S. DOT rules, the Department is in the process of making compliance modifications to the twelve New Haven Line stations designated as key stations in the Department's Key Station Plan of July 1992. This plan was developed in conjunction with the ADA Task Force, a citizen's advisory group consisting of individuals with disabilities and representatives of organizations serving the disabled. The Department sought and received extensions for meeting the key station accessibility compliance deadline of July 26, 1993, for all 12 New Haven Line key stations; Amtrak is responsible for compliance of the one Shore Line East key station. Currently, construction of accessibility facilities has been completed at the eastbound Norwalk station of the New Haven Line, with the westbound station expected to be complete in November of 1995. Construction at two other stations (Waterbury and New Haven) is nearing completion. Construction is scheduled and/or

underway at seven other stations (Danbury, Bridgeport, Stamford, New Canaan, Westport, Fairfield, and Greenwich), while construction has not yet been scheduled at the remaining two key stations (Darien and Milford).

The ADA regulations also require that at least one car per train be accessible to persons with disabilities by July 26, 1995. Sixteen (16) of the 48 new New Haven Line M-6 electric cars (configured as triplets) were constructed to be accessible. In addition, one car of every M-2 pair and M-4 triplet on the New Haven Line is scheduled to be made accessible as the cars are cycled through for overhaul. Each of the Bombardier cab cars used in the diesel locomotive-hauled trains for the New Haven Line and Shore Line East are already accessible. It is believed that there are sufficient accessible cars available to satisfy the one-car-per-train requirement by the deadline.

WATERWAYS AND SHIPPING

In 1991, the Bureau of Waterways was absorbed into the Bureau of Aviation and Ports. The Bureau regulates transportation on waterways, including licensing pilots, registering agents of foreign vessels, maintaining and operating the Connecticut River ferries (Rocky Hill - Glastonbury and Chester - Hadlyme), and overseeing the operation of the State Pier. The Bureau also provides technical assistance and advice to the governor-appointed harbor masters, the Connecticut Coastline Port Authority, and the Connecticut State Marine Pilot Commission.

The majority of the state's water transportation occurs on Long Island Sound, on the Connecticut, Housatonic, and Thames Rivers, and in the harbors of New Haven, Bridgeport, New London, Stamford, and Norwalk. The primary cargoes shipped through Connecticut ports and navigable rivers today include petroleum products, scrap metal, sand and gravel, chemicals, shellfish, and forest products. New Haven is the largest commercial port in the state, followed by New London and Bridgeport.

At the State Pier in New London, a number of capital improvements were made by the Navy in 1984, including a new administration building, an expanded berthing area for auxiliary vessels, and secured parking for navy personnel. All Navy property at the pier was transferred to the state in 1995, coincident with the end of the Navy's lease of space at the pier..

Until 1993, when the State Pier was closed due to structural problems, cargo imported through the facility included lumber, paper, hemp, copper, and steel. Exports from the pier have included waste paper and liner board to the Far East and the People's Republic of China.

Bids to demolish and reconstruct the pier were advertised in March of 1995. The revitalized pier will become the interest of the Connecticut Coastline Port Authority, an agency created in 1993 to promote all three of Connecticut's ports -- New Haven, Bridgeport and New London. For the economic health of the seacoast and the state, the authority hopes to establish a niche or specialty cargo for each port.

INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT (ISTEA)

Flexibility in funding, along with the realization that transportation needs to be coordinated on a statewide and national basis, increased significantly in 1991 with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA). The purpose of the act is to *"develop a National Intermodal Transportation System that is economically efficient, environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner."*

As part of the overall program restructuring, ISTE A also repealed the Federal-aid Primary, Secondary, and Urban Systems and their associated funding categories. In their place,

three new categories of assistance were established: the National Highway System, the Surface Transportation Program (STP), and the Congestion Mitigation and Air Quality Improvement Program (CMAQ). Other major categories, such as the Interstate Maintenance (formerly known as the Interstate 4R Program), Bridge, Federal Lands, and Emergency Relief Programs, were continued under the ISTE A. Also, the Interstate Construction Program was funded for four more years, to complete the financing of the Interstate System.

Federal funds allocated for specific facilities, such as bridge replacement or the interstate system, can be transferred to support construction of public roads or to develop public transit solutions to urban congestion. ISTE A also provides incentives for mass transportation projects by making the federal/state share of costs between highways and transit more equitable than it had been previously.

ISTEA also contains flexible funding provisions which allow the states to use traditional highway funding categories for transit purposes and to use transit funding for highway purposes. The Department has taken advantage of these flexible funding provisions to implement various priority transit projects.

Under ISTE A, funding for highway and mass transit is tied directly to the Clean Air Act Amendments of 1990. Projects that are not consistent with the requirements of the act will not get funding.

Finally, the act also requires more coordination among the various modes of transportation, stipulating that each state develop a statewide planning process, a statewide transportation plan, and a statewide transportation program. These steps had already been in place in Connecticut for 30 years. In addition, states must develop, establish, and implement six management systems -- pavement, bridge, highway safety, traffic congestion, public transportation facilities and equipment, and intermodal transportation facilities and systems. These management systems collect information

that is then used in statewide planning and transportation system management efforts.

ISTEA will have a continuing impact on the programs and planning of the Department at least in the near future. The Department's 1994 strategic plan included six goals: to ensure safety; to maintain the existing system; to increase system productivity; to promote economic development; to provide required capacity; and to utilize available funds effectively. For the first time in the Department's history, new roadway construction will not be the primary means of increasing system productivity. Although some additional roadways may be constructed in the future, the opening of I-291 northeast of Hartford marked the completion of the Interstate System and, hence, the end of an era of massive highway building in the state.



The Department used the flexible funding provisions under ISTEA to finance the replacement of the "Peck" drawbridge over the Pequonnock River (Bridgeport) and its approach viaducts. Currently underway, the \$140 million project, shown here in 1994, utilized a run-around (temporary) structure to allow maintenance of rail service during construction of the new bridge.

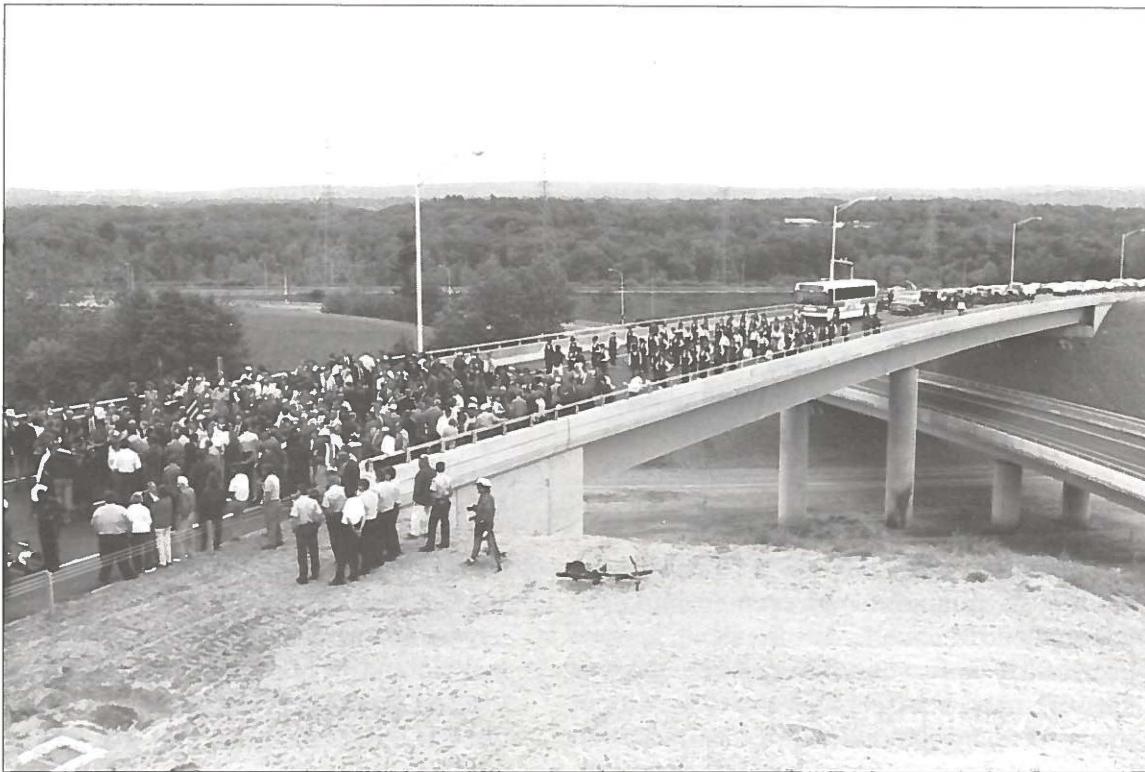
REGIONAL PLANNING

One notable aspect of ISTEA is a strengthening of the Department's already considerable regional planning function. As required by various federal highway laws, the Department had been working cooperatively with the state's designated Regional Planning Organizations (RPO) since 1959. The RPOs, which are comprised of Regional Planning Agencies (RPA), Councils of Elected Officials (CEO) and Councils of Governments (COG), conduct planning activities for specific geographic areas within the state. Each RPO consists of a number of member municipalities.

The RPOs work extensively to assist local municipalities in achieving economies of scale in providing planning and administrative services, and in coping with increasingly complex municipal management and planning practices. They also represent municipalities and provide a forum for addressing inter-municipal concerns on issues pertaining to state and federal programs.

As of May 1995, the State of Connecticut had 15 designated RPOs. The ten RPOs located in urbanized areas of more than 50,000 population are designated by the Governor to serve as Metropolitan Planning Organizations (MPO). MPOs conduct transportation planning as specified by the federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). ISTEA requires that MPOs have a continuing, cooperative, and comprehensive transportation planning process that results in plans and programs that consider all transportation modes and supports metropolitan community development and social goals. The other five RPOs, referred to as Rural RPOs, conduct transportation planning for the rural areas of the state in cooperation with the Department.

The Department works closely with the MPOs to develop and update the Long Range Plan (LRP), to develop and obtain endorsements of the Transportation Improvement Programs (TIP), to develop their Unified Planning Work Programs (UPWP) and to develop and obtain



The opening of I-291 in September of 1994 marked the completion of the Interstate System in Connecticut.

an endorsement of an Air Quality Conformity Statement. An MPO's LRP includes both short-range and long-range strategies and actions that lead to the development of an integrated intermodal transportation system that facilitates the efficient movement of people and goods within the MPO's region. The UPWP is a statement of proposed work and estimated costs that document the eligible activities to be undertaken with Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) planning funds. The Air Quality Conformity Statement demonstrates that the TIP conforms with the requirements of the Clean Air Act Amendments (CAAA) of 1990.

Since the inception of regional planning, the Department has actively been working with the regions. With the establishment in 1974 of the Department's Field Coordination Unit, it coordinated meetings between Department personnel and the RPOs to discuss various transportation issues, and Department liaisons

have attended the RPO technical committee meetings and policy board meetings on a regular basis to represent the Department and answer questions on transportation issues.

INCREASING ENVIRONMENTAL AWARENESS

As the environmental impact process authorized by the National Environmental Policy Act (NEPA) continued to be applied to transportation projects, a level of increased environmental awareness and subsequent federal and state environmental laws and regulations has increasingly shaped transportation policy and decisions. Some of these subsequent environmental regulations included the Clean Water Act, the Clean Air Act Amendments, state wetlands statutes, coastal zone management, and numerous Executive Orders, laws and regulations to protect wetlands, floodplains, farmlands, historic resources and public recreation areas.

In Connecticut, as in many other states, the expanding environmental process, while resulting in more environmentally sensitive designs, resulted in increased project cost, increased project timeframe and, often, in reduced project scope. Many project designs proposed by the Department, including Route 6, Route 7, Route 25, and I-291, were modified to make them more acceptable to regulatory agencies or to the public. The environmental process also opened the way for increased litigation on transportation projects. This also contributed to increased project costs.

PUBLIC INVOLVEMENT

As the environmental process evolved, the importance of public involvement became increasingly apparent. The public's right to know what was being planned and to have input to the planning process was recognized as an important part of project development. Although some degree of public involvement had always been part of the NEPA process, the Department became increasingly aware during the late 1980s and the early 1990s that the successful implementation of transportation projects now necessitated the building of consensus by all involved parties, including the public, as to the nature of the problem, the benefits and impacts of a set of alternative solutions, and the rationale for recommending one alternative solution over the others.

A NEW HOME FOR THE DEPARTMENT

In 1993, the Department's central office was consolidated under one roof for the first time. A new administration building designed for the needs of the Department was built on the Berlin Turnpike in Newington. Employees from the former building in Wethersfield and personnel from other satellite offices in the Greater Hartford area are now able to be housed together to make operations more efficient.

Making operations more efficient was in keeping with the Department's Total Quality Effort

Program, which had been instituted on September 16, 1992, under Commissioner Emil H. Frankel. Commissioner Frankel served from February of 1991 until January of 1995. From Weston, Commissioner Frankel was an experienced attorney with a law degree from Harvard University Law School. Prior to his appointment, he owned and managed a real estate consulting firm specializing in asset management and business reorganization.

In January of 1995, Commissioner J. William Burns returned as head of the Department, the only commissioner in its 100-year history to serve more than one *inconsecutive* term. Prior to his 1981 appointment, Commissioner Burns was Under Secretary and then Deputy Secretary of the Connecticut Office of Policy and Management from 1977 to 1981. Between 1975 and 1977, he had served the Department as an Executive Assistant.

FUTURE GOALS AND FINANCIAL OUTLOOK

While the 1980s was characterized by the need for retroactive repair and reconstruction, the Department envisions a future targeted on the proactive strategic goals of maintaining the existing transportation infrastructure system and maximizing system efficiency, with safety always in mind. Secondary goals are promoting economic development and providing required capacity. These goals will be carried out through the Infrastructure Renewal Program, the Department's ongoing program of capital investment in Connecticut's transportation infrastructure.

The program would be impossible without the funding provided by the Special Transportation Fund (STF) and the funding provided by federal highway, federal transit and federal aviation sources. Approximately \$170 million in bonds and \$20 million in pay-as-you-go (non-bonded) appropriations are invested in Connecticut's transportation infrastructure annually. State funds are supplemented by approximately \$450 million of federal funds each year, resulting in a

total of approximately \$650 million of expenditures on state transportation infrastructure renewal each year. Some local funds are also expended, but these comprise a very minor share.

The Special Transportation Fund (STF) was established by the state legislature as part of the 1984 Transportation Infrastructure Renewal Program. Approximately 80 percent of STF revenues come from the motor fuels tax and motor vehicle receipts combined, with the motor fuels tax generating more than half. Although gasoline consumption has remained fairly steady since 1985, the gas tax has risen from 15 cents per gallon at the end of 1985 to 20 cents per gallon at the end of 1994, providing a reliable source of revenue for the fund. Interest income, license and permit fees, transfers from the General Fund, and FTA grants are additional but relatively minor sources of revenue. In fiscal year (FY) 1994, STF revenues exceeded \$700 million, up from just over \$400 million in 1985.

Established to finance the 1984 Transportation Infrastructure Renewal Program, the STF pays the operating expenses of the Department as well as the interest, principal and administrative costs (debt service) due from the sale of bonds. The major share of the operating budget consists of salaries of Department personnel, pension and fringe benefits of Department, Department of Motor Vehicle and Highway Patrol personnel, Town Aid expenditures, rail subsidies, and bus subsidies. In FY 1995, \$293 million of STF expenditures were allocated to the Department's operating budget.

The sale of bonds continues to fund the Infrastructure Renewal Program. The condition of revenues and expenditures are closely evaluated to determine the level of bonding that can be supported by the STF, with debt service being one of the primary considerations. The level of debt service supported by the STF has varied over the years, ranging from 26 percent of total fund expenditures in 1988 to a high of 46 percent of total expenditures in 1993. The level of debt service remains close to 45 percent, a level anticipated at least through 1997. Debt service must be paid before any other STF expenditures.

During the 10 years from 1985 through 1994, a total of \$7.5 billion was spent on improvements to the state's transportation system. Of this amount, \$3.62 billion came from state funds while \$3.95 billion came from federal funds. The ratio of federal dollars to state dollars has fluctuated year to year. The greatest source of federal funding is ISTEA, which, since its enactment in 1991, has authorized specific funding levels and formulas for each fiscal year (FY). The ratio of federal to state funds has grown under ISTEA. Likewise, funding provided to Connecticut under ISTEA has generally increased each year, from \$370 million in FY 1992 to \$414 million in FY 1995. For FY 1997, ISTEA funding is anticipated to be \$474 million, with a federal/state funding ratio of 70/30. This outlook is very favorable for the state, indicating that the Department will be able to make excellent headway on implementing its transportation improvement goals in the near future, if not for the next 100 years.



In 1993, the Department was consolidated under one roof for the first time, in the new administration building in Newington.

CHAPTER 10

A CENTURY'S WORTH OF CHANGE AND A DIFFERENT WORLD BEYOND 1995

As the Connecticut Department of Transportation sits poised on the brink of the next one hundred years, it is clear that the Department is a very different agency from the Connecticut Highway Commission that was formed one hundred years ago in 1895. From an agency with the single focus of building and regulating roadways, the Department has evolved into a true multimodal agency with widely diverse transportation responsibilities.

However, while the Department has gone through a continuing evolution and many changes, perhaps the most profound change is that the Department is now operating in a very different world than during most of its century of existence. For most of its history, the Department's focus was on the construction of new and larger facilities to meet the demands of increasing population and increasing travel (particularly increasing automobile travel).

In 1995, the focus of the Department, and indeed the focus of the U.S. DOT and transportation agencies throughout the nation, has changed to that of managing facilities and managing travel to get the most efficient use out of our existing transportation facilities and resources. A number of contributing factors have combined to bring about this change. These include: insufficient resources for major new facilities; increasing congestion; concerns about the environmental and land development impacts of new roadway construction; air quality concerns and the requirements of the Clean Air Act Amendments; and the development of new technology and new techniques in traffic management.

Perhaps the most solid impetus to redefine national transportation policy was the passage

by Congress in 1991 of the Intermodal Surface Transportation Efficiency Act (ISTEA), a landmark piece of transportation policy and funding legislation. ISTEA recognized the need to maintain and enhance our existing transportation infrastructure, the need for true, integrated multimodal planning, the need for local flexibility in the allocation of federal transportation funds, and the need for efficiency in the operation of transportation facilities.

Of great importance also is the fact that change in today's world seems to occur so rapidly, with the development of new technologies, information management, access to the information superhighway, and all the speed and complication of modern life. The existence of the U.S. DOT, which only came about in the late 1960s, is now rapidly changing. The Urban Mass Transportation Administration was changed to the Federal Transit Administration as part of ISTEA. And in 1995, a major overhaul and reorganization of the U.S. DOT was proposed which, if passed by Congress, would change the nature of that agency entirely.

In the coming years the Connecticut Department of Transportation will continue to evolve to meet the changing needs of changing times. As the Department steps out into its second century, the future is unknown and uncertain. However, the Department's commitment to meeting Connecticut's transportation needs and to solving Connecticut's transportation problems will continue to drive its decision making and policies.

Farther into the future it is impossible to say what new regulations, funding levels, or mandates will be encountered by the Department as it pursues its mission of meeting Connecticut's transportation needs. In this year of its 100th anniversary, the Department faces a future in which it must manage its resources

more carefully than ever before as transportation problems continue to become more complex. Integration of transportation solutions, emphasis on the environment, and working within the stipulations of ISTEA and future federal legislation promise to challenge the Department well into the future.

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